IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

DUNNHUMBY USA, LLC and DUNNHUMBY LIMITED,	)	
Plaintiffs,	)	
v.	)	No. 13-cv-0399
EMNOS USA CORP.,	)	
Defendant.	)	

MEMORANDUM OPINION AND ORDER

AMY J. ST. EVE, District Court Judge:

The parties dispute nine claim terms in U.S. Patent No. 7,421,442 ("the '442 Patent"). After reviewing the parties' respective submissions and the prosecution history, and conducting a *Markman* hearing on January 26, 2015 and February 4, 2015, *see Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (*en banc*), *aff'd* 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996), the Court construes the disputed claim terms as set forth below.

BACKGROUND

I. Procedural History

On June 17, 2013, Plaintiffs dunnhumby USA, LLC and dunnhumby Ltd. (collectively "dunnhumby") filed their First Amended Complaint against emnos USA ("emnos"), alleging that emnos willfully infringed and continues to infringe—directly, contributorily, and/or by active inducement—claims of U.S. Patent No. 8,214,246 ("the '246 Patent"). (R.29, First Am. Compl., ¶¶ 53-56.) On July 12, 2013, emnos filed its Answer, Affirmative Defenses, and Counterclaims asserting various affirmative defenses and counterclaims including non-infringement and

invalidity of the ‘246 Patent and further alleging counterclaims against dunnhumby for infringement of the ‘442 Patent. (R.32, emnos’s Answer.) On September 4, 2014, dunnhumby filed its answer and affirmative defenses to emnos’s counterclaims and additionally counterclaimed for declaration of non-infringement and invalidity of the ‘442 Patent. (R.45, dunnhumby’s Answer to Counterclaims.)

Because the asserted patents are not related to one another, the Court addresses each patent in a separate Opinion. The Court previously construed the terms in the ‘246 Patent [R.183] and addresses the ‘442 Patent herein.

II. U.S. Patent No. 7,421,442

The ‘442 Patent, entitled System and Method for Data Capture and Reporting,” was filed on September 30, 2002 and issued on September 2, 2008. (R.122-1, ‘442 Patent, at JA1.) The ‘442 Patent claims priority to a U.S. Provisional Patent Application No. 60/393,207 (“the ‘207 Provisional Application”), filed on July 2, 2002. (*Id.*; *see also* R.122-2, ‘442 Patent Prosecution History, at JA338-340; R.122-3, ‘207 Provisional Application, at JA384-594.) Two inventors—Elizabeth A. Gelb and Eric D. Whitney—are named on the face of the patent as well as the assignee, American Express Travel Related Services Co, Inc.. (R.122-1, at JA1; R.122-2, at JA37-92.) Defendant emnos is the exclusive licensee of the ‘442 Patent. (R.32, Counterclaims, ¶ 11.)

The ‘442 Patent is directed to methods and systems “for remotely accessing, querying, and reporting from a centralized database.” (R.122-1, at JA9, col.1:13-16.) The specification describes a system and method for a user to access a secure central program through the use of an intermediary system that receives and validates log on information, to ensure the user is authorized. (*Id.*, col.2:21-25.) The access data is then transmitted to the secure system, where it

is also validated and then used to allow access to the user through the intermediary system. (*Id.*, col.2:25-31.) The specification discloses creation of a query by a variety of methods—including graphical methods. (*Id.*, at col.2:32-34.) The specification also describes a method for executing a database query wherein the database generates a Structure Query Language ("SQL") statement which can be manipulated by the user and is then validated and executed. (*Id.*, col.2:32-43.) The specification states "[a] common method of querying databases is the use of [SQL] . . ." (*Id.*, col.1:62-64.) The results of the query may be stored and delivered to be placed in a location that is accessible to a pre-determined group of users. (*Id.*, col. 2:44-48.)

The '442 Patent contains thirteen claims generally directed to a method for facilitating execution of a query on a database (Claims 1-12) and a machine-readable medium that stores a plurality of instructions that dictate a method that contains steps identical to the method for facilitating execution of a query on a database (Claim 13). (*Id.*, at JA14, col.11:47 to JA15, col.14:17.) Independent Claim 1 is representative of the method for facilitating execution of a query on a database and is recited below, with the disputed claim terms in bold:

> 1. A method for facilitating execution of a query on a database comprising:
>
> receiving an input list from a user, wherein said input list includes query criteria relating to a field in said database;
>
> **storing said input list with a profile corresponding to said user**;
>
> receiving a **selection of a query type** from said user, wherein said query type corresponds to a **query template**;
>
> receiving a request from said user to retrieve said input list;
>
> providing said user with said input list;
>
> **receiving a query field** and query criteria **from a user**, wherein said query criteria is selected from said input list by said user;
>
> creating a Structured Query Language (SQL) statement based on said query field, said query criteria, and said query type;
>
> **executing said SQL statement to add said query field and said query criteria to said query template**;

saving said **query template** within a first record of **a query database** to create a stored query;

receiving a selection of said stored query;

executing said stored query against said database;

saving said stored query in a second record of **said query database**;

performing an analysis of said query database, wherein said analysis is based on performance data resulting from said execution of said stored query on said database, and wherein said analysis **determines at least one of: database fields that are queried least often and database fields that are queried most often**.

(*Id.*, at JA14, col.11:49-col.12:12 (emphasis added).)

III. Prosecution History of the '442 Patent

On September 30, 2002, the '442 Patent was filed as U.S. Patent Application No. 10/260,806 ("the '806 Application"). (R.122-1, at JA1; R.122-2, at JA345-383.) The '806 Application originally contained 13 claims directed to (1) a method of accessing a secure system, (2) a method of executing a query on a database, and (3) a method of delivering information. (R.122-2, at JA21-23.) On February 10, 2005, the United States Patent and Trademark Office ("PTO") issued a restriction requirement forcing the Applicants to elect one of the three groups of invention claimed. (*Id.*, at JA320-324.) The Applicants selected the second group and amended the claims, adding claims 10-18. (*Id.*, at JA315-319.) On April 8, 2005, the PTO issued a non-final Office Action, rejecting claims 3-5, 10, 13 and 18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Number 5,555,403 ("Cambot"). (*Id.*, at JA304-306.) The PTO also rejected claims 11-12 and 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Cambot in view of U.S. Patent Application Publication Number 2003/0126114 ("Tedesco"), and further rejected claim 17 as being unpatentable over Cambot in view of Tedesco and U.S. Patent No. 6,633,875 ("Brady"). (*Id.*, at JA304-309.) The PTO referenced Cambot for teaching prompting the user to execute the query, creating query options, and generating an SQL statement in response to the query and using that command to translate the query. (*Id.*, at

JA304-305.) The PTO relied on Tedesco for its teaching of "a computing system which provides access to a plurality of users over a network via Internet which includes [the claimed method steps]." (*Id.*, at JA307.) The PTO also relied on Brady for its teaching of compressing and encrypting the file that is made accessible to a pre-determined group of users. (*Id.*, at JA309.) Applicants responded on May 11, 2005, and amended the independent claims to include a step of "receiving a selection of a pre-existing query, wherein said pre-existing query is a combination of said query field and said query criteria." (*Id.*, at JA297, JA299.) They then argued that Cambot does not disclose or suggest this claimed step because "Cambot does not disclose saving a resulting query in memory or a database in order to enable access to pre-existing queries." (*Id.*, at JA300.)

The PTO responded with a final Office Action on July 22, 2005 rejecting claims 3-5, 10, 13 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Cambot and U.S. Patent Number 6,775,665 ("Pierson"), and further rejecting claims 11-12 and 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Cambot and Piersol in view of Tedesco. The PTO relied on Pierson for its teaching of "receiving a selection of a pre-existing query." (R.122-2, at JA285.) Applicants responded on August 18, 2005, by amending the two independent claims to include a step of "performing an analysis of said pre-existing query, wherein said analysis is based on performance data resulting from execution of said pre-existing query on said database." (*Id.*, at JA275, JA277.) In addition, Applicants also added a dependent claim (claim 19) that further elaborated the analysis step to include "at least one of determining the speed performance of said per-existing query, determining the most frequently queried tables, and determining the most frequently queried fields". (*Id.*, at JA277.) Applicants asserted that Cambot does not teach the step of receiving a selection of a pre-existing query as it is a query builder application that allows

users to construct complex queries without knowledge of SQL. (*Id.*, at JA278.) Applicants further noted that neither Cambot nor Piersol disclose or suggest the newly claimed step, stating:

> Cambot is limited to a system for visually constructing SQL queries and Piersol is limited to a file management system which includes the ability to store and subsequently search queries as documents. However, neither reference discloses systems capable of enabling programmers, database administrators, administrators and the like to analyze the performance of queries. Relational databases are technologically sophisticated and many of today's databases may contain millions of records within any number of interrelated tables.

(*Id.*, at JA279.) Regarding Tedesco, Applicants acknowledged it teaches an "alternate database engine [that] translates commands submitted in the format of the established database engine and further provides results in the format of the established database engine." (*Id.*, at JA280.) As with Cambot and Piersol, Applicants noted that Tedesco "also does not disclose or suggest an analysis of the performance of a query or database structure." (*Id*.)

On September 1, 2005, the PTO issued an Advisory Action indicating that more consideration and/or searching would be required to address the proposed amendment. (R.122-2, at JA271.) Applicants then filed a Request for Continued Examination. (*Id.*, at JA268.) The PTO responded with a non-final Office Action on December 5, 2005, rejecting newly added dependent claim 19 under 35 U.S.C. § 112, for failure to comply with the written description requirement and for indefiniteness. (*Id.*, at JA254.) The PTO maintained the prior rejections of claims 3-5, 10, 13, and 18 under 35 U.S.C. § 103(a), along with newly added claim 19, as being unpatentable over Cambot and Piersol. The PTO also rejected claims 11-12 and 14-17 under 35 U.S.C. § 103(a), as being unpatentable over Cambot and Piersol in view of Tedesco and rejected claim 17 over Cambot and Piersol in view of Tedesco and Brady. (*Id.*, at JA255-262.) Applicants responded on March 6, 2006, amending claim 19 and arguing that support existed in

the specification in an effort to overcome the written description rejection of claim 19. In particular, Applicants stated:

> In such a manner, the performance of queries can be tracked and analyzed. Through such an analysis, one may be able [to] determine the performance of queries on certain fields. In addition, one can determine which fields within a database are being used in queries most often, and what fields are used in queries least often. The queries being run are an indication of how the database is being used. The database can then be modified to more efficiently operate based on the usage and performance of the database. For example, if it is found that no queries are run on a particular field, that field may be eliminated from the database if it is not otherwise necessary.

(R.122-2, at JA247-248; *see also* R.122-1, at JA11, col.6:14-25.) Applicants maintained their previous position in response to the obviousness rejections, asserting that Cambot, Piersol and Tedesco do not disclose or suggest an analysis of the performance of a query or database structure. (*Id.*) They further argued that the PTO's reliance on Piersol for disclosing an analysis step is misplaced as Piersol discusses the use of comment data to help facilitate a search for the query, admitting that "[w]hile this provides a useful mechanism whereby queries more closely matching a user's needs can be quickly located it does not provide any information relating to the performance of the query." (*Id.*, at JA249.)

The PTO, once again, came back with a final rejection of the pending claims on May12, 2006, withdrawing the rejections under 35 U.S.C. § 112, but maintaining the obviousness rejections and finding Applicants arguments not persuasive. (*Id.*, at JA228-236.) In particular, the PTO noted that the combination of Cambot in view of Piersol teaches the analysis step of the claim and that Piersol specifically teaches an analysis of the performance of a query or database structure by its disclosure of a "text summarizing various aspects of a given query" and teaches this text is called "comment data." (*Id.*, at JA236.) Applicants responded on July 12, 2006, amending the claims to add a step just prior to the analysis step which stated "saving said pre-

existing query in a second record of said query database." (*Id.*, at JA219, 221.) Applicants argued that "Cambot and Piersol disclose query management tools." (*Id.*, at JA223.) They noted that "neither Cambot, nor Piersol, save an instance of a query each time it is executed, therefore it would not be possible to determine precisely how many times, and from where, data has been queried." (*Id.*, at JA223.) Applicants further claimed that this type of "information would prove to be advantageous to both Cambot and Piersol, as it would assist database administrators in maintaining the database in accordance with usage statistics." (*Id.*) Applicants also addressed Brady describing it as "a system for maintaining real estate data regarding multifamily housing" and noting that "while Brady allows query templates to be stored to enable common users to execute preconfigured queries, Brady does not disclose or suggest saving a query each time it is executed for the purpose of providing an analysis of the performance of the database." (*Id.*, at JA224.)

After issuance of another Advisory Action on July 26, 2006 indicating that the newly proposed amended claims required further searching and/or consideration, Applicants filed a second Request for Continued Examination. (R.122-2, at JA212-214; *id.*, at JA209.) The PTO responded with a non-final Office Action maintaining all rejections under 35 U.S.C. § 103(a) for claims 3-5, 10, 13, 18, and 19 and noting that Applicants' arguments to distinguish the references—Cambot, Piersol, Tedesco, and Brady—rely upon features that are not recited in the rejected claims, "i.e., saving a query each time it is executed for the purpose of providing an analysis of the performance of the database." (*Id.*, at JA201.) Applicants responded on January 9, 2007, amending the claims to add a limitation to the analysis step, stating: "wherein said analysis determines at least one of: database fields that are queried least often and database fields that are used most often." (*Id.*, at JA182, JA184.)

The PTO responded with a third final Office Action on February 20, 2007, rejecting claims 3-5, 10, 13, 18, and 19 under 35 U.S.C. § 103(a) as being unpatentable over Cambot and Piersol in view of U.S. Patent No. 6,185,567 ("Ratnaraj"), and claims 11-12 and 14-17 as being unpatentable over Cambot, Piersol and Ratnaraj in view of Tedesco, and claim 17 as being unpatentable over Cambot, Piersol, Ratnaraj and Tedesco in view of Brady. (*Id.*, at JA166-174.) The PTO relied on Ratnaraj's teaching of "a database management system which enables the user to search the data across several data sets," and its disclosure of an analysis of "fields that are most often retrieved by users." (*Id.*, at JA168.) Applicants responded on April 11, 2007, amending the limitation of the analysis step to at least one of: database fields that are queried least often and database fields that are queried most often. (*Id.*, at JA157, JA159.) Applicants argued that "[w]hile a user may search a database for a specific query and review comments relating to the query, the search of the database alone would not provide information useful in determining how many times the query had been run or what various modifications were made to the query over time." (*Id.*, at JA161.) Additionally, Applications addressed Ratnaraj, stating, "Ratnaraj discloses an analysis of file structures and indexes, but does not disclose a direct analysis of query fields in order to identify which database fields are most frequently queried." (*Id*.) The PTO responded with an Advisory Action that the proposed amendments would not be entered because they did not place the application in condition for allowance. (*Id.*, at JA151.) Specifically, the PTO noted that the claims did not recite the features upon which applicant relied" "(i.e., how many times the query had been run or what various modifications were made to the query over time)" and "(i.e., a direct analysis"). (*Id*.)

While addressing some correspondence regarding unintentional abandonment of the application, Applicants filed an amendment on November 14, 2007, amending the claims to read

as issued in the '442 Patent (*Id.*, at JA130-133), and filing a supplemental amendment adding Figures 7 and 8 (*Id.*, at JA116-124). The PTO responded and granted Applicants' petition to revive its application and further issued a Notice of Allowance on June 16, 2008, stating in its Reasons for Allowance that the prior art does not teach:

> Storing an input list with a profile corresponding to a user, a query type corresponding to a query template, receiving a query field and query criteria from the user, wherein a query criteria is selected from the input list by the user, creating a SQL statement based on the query field, query criteria and query type, and executing the SQL statement to add to a query template, combined with, performing [a] "performance data resulting from execution" analysis of a query database.

(*Id.*, at JA96.) Applicants then filed a Notice of Recordation of Assignment with the PTO, indicating American Express Travel Related Services Co, Inc. as the assignee. (*Id.*, at JA44.) The '442 Patent issued on September 8, 2008, which included a Patent Term Adjustment under 35 U.S.C. § 154(b) of 556 days. (*Id.*, at JA32.)

IV. The *Markman* Hearing

On January 26, 2015 and February 4, 2015, the Court conducted a *Markman* hearing that addressed both patents-in-suit, the '246 Patent and the '442 Patent. The parties presented their respective attorney arguments and neither side presented live expert testimony.

During the *Markman* hearing, the Court indicated to the parties that it would not, at this time, consider dunnhumby's invalidity arguments alleging the '442 Patent's failure to meet the written description requirement as these arguments present issues of fact that is more appropriate for summary judgment. *See e.g.*, *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013) (citations omitted) (explaining that the written description inquiry presents an issue of fact); *Hynix Semiconductor Inc. v. Rambus Inc.*, 645 F.3d 1336, 1351-52 (Fed. Cir. 2011) ("First, whether a claim is supported by an adequate written description is a

factual inquiry, and has been for some time"); *Ariad Pharm. Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1355 (Fed. Cir. 2010) ("A determination that a patent is invalid for failure to meet the written description requirement of 35 U.S.C. § 112, ¶ 1 is a question of fact …").

The Court further indicated, however, that it would consider dunnhumby's indefiniteness arguments because indefiniteness is a determination made by the court as a matter of law. *See e.g., Ancora Techs., Inc. v. Apple, Inc.*, 744 F.3d 732, 734 (Fed. Cir. 2014) ("Claim construction and indefiniteness are matters of law …"); *Brown v. Baylor Healthcare Sys.*, 381 Fed. Appx. 981, 982 (Fed. Cir. 2010) ("Indefiniteness under 35 U.S.C. § 112, ¶ 2 is also a matter of law …"); *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008) ("Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are application to determining whether allegedly indefinite claim language is subject to construction."); *see also Fujitsu Ltd. v. Tellabs Operations, Inc.*, 782 F.Supp.2d 635, 644-45 (N.D. Ill. 2011) (explaining indefiniteness is determined by the court as a matter of law). Accordingly, the Court asked the parties for supplemental briefing related to the alleged indefiniteness of the disputed claim terms of the '442 Patent and reserved ruling on the validity of the '442 Patent claim terms based on an analysis of the written description. (*See* R.162.)

V. The Disputed Terms

The parties disagree on the construction of nine claim terms of the '442 Patent. The parties' respective proposals as to each term are set forth in the following chart:

Disputed Claim Term	**Claims-at-Issue**	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**
"query template"	Claims 1 and 13	"a collection of preset information that is added to or modified to create an executable request for information"	Indefinite. If valid, then: "a graphical user interface via which a user edits and views a database query"

Disputed Claim Term	**Claims-at-Issue**	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**
"selection of a query type"	Claims 1 and 13	"a selection of the type of information to be requested from the database"	Indefinite. If valid, then: "a selection by a user of a specific query template [as construed] according to a user's skill level, such as 'Basic,' 'Advanced,' or Programmer'"
"database field"	Claims 1 and 13	"a category of data of a particular type in a database (e.g., geographical data, product data, group data, etc)"	"a location in a database table in which a particular type of data is stored, characterized by a field name (e.g., first name, last name, city, state), size and type of data that can be placed in them (e.g., alphabetic, numeric or financial)" or "a column in a database table having a field name in which a particular type of data is stored"
"receiving a query field … from a user"	Claims 1 and 13	"receiving a category of data of a particular type … from a user"	"receiving a specific database field [as construed], such as 'first name' or 'last name', from a user according to the user's selection or identification of that field using a graphical user interface" or "receiving a specific database field [as construed], such as 'first name' or 'last name', from a user according to the user's selection or identification of that field using a computer's user interface"

Disputed Claim Term	Claims-at-Issue	emnos's Proposed Construction	dunnhumby's Proposed Construction
"executing said SQL statement to add said query field and said query criteria to said query template"	Claims 1 and 13	"executing the SQL code to combine the query criteria and category of data of a particular type with the query template [as construed] to create an executable request for information"	Indefinite. If valid, then: "executing the SQL statement created in the previous claim step to add the query field and the query criteria to the query template [as construed]"
"query database"	Claims 1 and 13	"structured set of data that can perform functions such as searching and sorting, that stores code that represents the requests for information"	"a database containing the stored SQL queries"
"performing an analysis of said query database"	Claims 1 and 13	"performing an analysis of data that results from executing queries on the query database [as construed]"	"performing an analysis on the query database [as construed]"
"determines at least one of: database fields that are queried least often and database fields that are queried most often"	Claims 1 and 13	"determining the database fields [as construed] of the database that are queried[1] either least often or most often"	Indefinite. If valid, then: "determining, based upon the analysis of all the database queries stored in the query database [as construed], database fields [as construed] of the database that are queried least often and/or most often."
"storing said input list with a profile corresponding to said user"	Claims 1 and 13	"saving the organized set of data and associating it with information about a user"	Indefinite. If valid, then: "storing the input list with the profile corresponding to the user (which is a computer-based record maintained about an authorized user of a multiuser system) so that a direct association between the input list and the profile is maintained"

[1] During the *Markman* hearing, the parties indicated to the Court that emnos's correct proposed construction for this disputed term referred to "queried" rather than "required." (*See Markman* Hrg. Tr., Feb. 4, 2015, 70:19-71:8.)

LEGAL STANDARD

I. Claim Construction

Because the claims of a patent define the invention, claim construction—the process of giving meaning to the claim language—defines the scope of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) ("It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'") (citation omitted). Claim construction is a matter of law for the court to determine. *Markman*, 517 U.S. at 391; *Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1357-58 (Fed. Cir. 2012). The claim construction analysis begins with the words of the claims themselves, giving those words their ordinary and customary meaning, which is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1312-13; *see also InterDigital Commc'ns, LLC v. Int'l Trade Commc'n*, 690 F.3d 1318, 1324 (Fed. Cir. 2012).

The Federal Circuit teaches that courts should focus on the intrinsic record in construing claims, stating "[i]mportantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1315; *see also HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1275 (Fed. Cir. 2012) (stating that the district court "should have referred to the specification to understand the claims") (citing *Phillips*, 415 F.3d at 1315). In construing a disputed claim term, courts also look to the prosecution history of the patent-in-suit. *HTC*, 667 F.3d at 1276 ("A court should . . . look to the prosecution history when construing a claim.") (citing *Phillips*, 415 F.3d at 1317) (prosecution history is the "complete record of the proceedings before the PTO").

A "district court's construction of a patent claim, like a district court's interpretation of a written instrument, often requires the judge only to examine and to construe the document's words without requiring the judge to resolve any underlying factual disputes." *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, ____U.S.___, 135 S.Ct. 831, 840-41, ____L.Ed.2d____ (2015). "In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Id.* Although "less significant than the intrinsic record," extrinsic evidence, which consists of "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises," may "shed useful light on the relevant art." *See Phillips*, 415 F.3d at 1317 (citations omitted); *see also HTC*, 667 F.3d at 1277 ("A court may also look to extrinsic evidence, such as dictionaries and expert opinions.") (citing *Phillips*, 415 F.3d at 1317). Before considering extrinsic evidence to construe a disputed claim, however, courts must first examine the intrinsic evidence. *Phillips*, 415 F.3d at 1317-19; *see also 01 Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1295-96 (Fed. Cir. 2012) ("To ascertain the scope and meaning of the asserted claims, we look to the words of the claims themselves, the specification, the prosecution history, and, *if necessary*, any relevant extrinsic evidence.") (quoting *Chicago Bd. Options Exch., Inc. v. Int'l Sec. Exch., LLC*, 677 F.3d 1361, 1366 (Fed. Cir. 2012) (emphasis added)); *Kara Tech. Inc. v. Stamps.com Inc*., 582 F.3d 1341, 1348 (Fed. Cir. 2009) ("extrinsic sources like expert testimony cannot overcome more persuasive intrinsic evidence"). If the court finds a term to be ambiguous based on the intrinsic record, reliance on extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises is appropriate. *See Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1360 (Fed. Cir.

2013) (citing *Phillips*, 415 F.3d at 1317) ("Where the intrinsic record is ambiguous, and when necessary, we have authorized district courts to rely on extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises"); *cf. Koepnick Medical & Educ. Research Foundation, LLC v. Alcon Labs., Inc.*, 162 Fed. Appx. 967, 972 (Fed. Cir. 2005) (affirming the district court's decision to disregard extrinsic evidence where the intrinsic evidence was sufficient to support the claim construction).

II. Indefiniteness

The Patent Act requires that a patent specification "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2 (2006 ed.).[2] A patent claim is invalid for indefiniteness if its language, when read in light of the specification and the prosecution history, "fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc., v. Biosig Instr., Inc.*, 134 S.Ct. 2120, 2124, 189 L.Ed.2d 37 (2014). In evaluating the definiteness requirements, courts must (1) evaluate from the perspective of someone skill in the relevant art, (2) read the claims in light of the patent's specification and prosecution history; and (3) measure the viewpoint of a person skilled in the art as of the effective filing date. *Id.* at 2128. The "delicate balance" of the definiteness requirement "'must allow for a modicum of uncertainty' to provide incentives for innovation, but must also require 'clear notice of what is claimed, thereby appris[ing] the public of what is still open to them.'" *Interval Licensing LLC v.*

[2] dunnhumby refers to §112(a) and §112(b) in its claim construction briefing (*See e.g.*, R.123, at 7, 11, 17, 23), however, the Court evaluates these claims under the pre-AIA version of §112 as it is applicable to the '442 Patent, filed in 2002. *See Alcon*, 745 F.3d 1180, 1183, n. 1 (Fed. Cir. 2014) (explaining that Paragraph 1 of 35 U.S.C. § 112 was replaced with newly designated § 112(a) by § 4(c) of the AIA, Pub. L. No. 112–29, and AIA § 4(e) makes those changes applicable "to any patent application that is filed on or after" September 16, 2012).

AOL, Inc., 766 F.3d 1364, 1369 (Fed. Cir. 2014) (citing *Nautilus*, 134 S.Ct. at 2128, 2129); *see Interval Licensing*, 766 F.3d at 1369 (explaining how *Nautilus* found the Federal Circuit's characterization of indefiniteness by "insolubly ambiguous" and "amendment to construction" expressions "more amorphous than the statutory definiteness requirement allows"). "[T]he certainty which the law requires in patents is not greater than is reasonable, having regard to their subject matter." *Nautilus*, 134 S.Ct. at 2130 (citing *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270, 37 S.Ct. 82, 61 L.Ed.286 (1916)); *see also Markman*, 517 U.S., at 389 (claim construction calls for "the necessarily sophisticated analysis of the whole document," and may turn on evaluations of expert testimony"). "The claims, when read in light of the specification and prosecution history, must provide objective boundaries for those of skill in the art." *Interval Licensing*, 766 F.3d at 1371 (citing *Nautilus*, 134 S.Ct. at 2130 & n. 8 (indicating that there is an indefiniteness problem if the claim language "might mean several different things and 'no informed and confident choice is available among the contending definitions'")); *see also id.*, 766 F.3d at 1371 (citing *Halliburton Energy Servs., Inc. v. M–I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008) (explaining that a claim term's definition that can be reduced to words can still render the claim indefinite "if the person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope.")).

The party alleging indefiniteness under Section 112, must prove by clear and convincing evidence that the challenged claims of the patent are indefinite. *See Nautilus*, 134 S.Ct. at 2130, n.10; 35 U.S.C. § 282(a) ("A patent shall be presumed valid").

ANALYSIS

Before reaching the merits of the parties' proposed constructions, the Court addresses the scope of the evidence considered in reviewing some of the disputed claim terms for

indefiniteness and in forming its constructions of the disputed claim terms. In particular, the Court considers whether the '442 Patent's provisional application, U.S. Provisional Patent Application No. 60/393,207 ("the '207 Provisional Application"), to which it claims priority,[3] constitutes intrinsic or extrinsic evidence for claim construction purposes. (*See* R.122-1, at JA1.)

The claim construction analysis begins with the words of the claims themselves, giving those words their ordinary and customary meaning, which is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *See Phillips*, 415 F.3d at 1312-13. Here, the parties dispute whether the Court should rely on the '207 Provisional Application as intrinsic or extrinsic evidence. The '442 Patent claims priority to the '207 Provisional Application. (*See* R.122-1, at JA1 ("Related U.S. Application Data, Provisional Application No. 60/393,207, filed on Jul. 2, 2002"); *see also* R.122-1, at JA338-339 (declaration claiming the benefit under 35 U.S.C. § 119(e) of the '207 Provisional Application's filing date).) The parties provided a joint appendix containing the '442 Patent prosecution history, but the prosecution history did not contain the '207 Provisional Application. (*See* R.122-2.) Instead, the parties provided it separately. (*See* R.122-3). Indeed, during the *Markman* hearing, the Court provided leave for dunnhumby to supplement the record with evidence indicating that the examiner looked at the provisional application in this case, and it did not submit any such evidence. (*See Markman* Hrg. Tr., Jan 26, 15, 222:25-223:11.)

[3] A United States non-provisional patent application can claim priority to an earlier filed application in order to obtain an earlier effective filing date. *See* 35 U.S.C. § 119(e)(1); *In re Giacomini*, 612 F.3d 1380, 1383 (Fed. Cir. 2010). Section 119(e) treats a non-provisional application—claiming priority to a provisional application filed under 35 U.S.C. § 111(b)—as though filed on the date of its corresponding provisional application. *See* 35 U.S.C. § 119(e)(1). In order to benefit from this earlier filing date, however, an "important limitation is that the provisional application must provide written description support for the claimed invention." *In re Giacomini*, 612 F.3d 1380, 1383 (Fed. Cir. 2010).

dunnhumby contends that the Court can rely on the '207 Provisional Application and whether it is incorporated by reference "makes no difference—provisional applications are always part of the prosecution history of any patent claiming priority to them." (R.163, dunnhumby's Suppl. Br., at 2, 4.) It is also dunnhumby's position, however, that even though the Court can consider the '207 Provisional Application for claim construction purposes, it would not be able to consider the '207 Provisional Application for invalidity purposes under 35 U.S.C. § 112, ¶ 1, because it is not incorporated by reference and is not part of the four corners of the specification. (*See* R.123, dunnhumby's Claim Construction Br., at 6-7; R.123-1, Keller Decl., ¶ 11 (dunnhumby's expert explaining his "understanding that the contents of that provisional patent application are not considered a part of the '442 patent's disclosure"); *see also Markman* Hrg. Tr., Jan 26, 2015, 182:8-183:15.) emnos contends that "whether an unincorporated provisional application is considered intrinsic or extrinsic evidence, it can be considered in a claim construction analysis, along with other extrinsic evidence, provided it is accorded the proper weight in the analysis. (R.173, emnos's Resp. Suppl. Br., at 3.)

The issue here is whether the Court recognizes a provisional application as intrinsic or extrinsic evidence for claim construction purposes when it is not incorporated by reference into the patent-at-issue and there is no evidence that examiner considered it during prosecution. Although the Federal Circuit has not directly addressed the issue, the case law implies that a provisional application becomes intrinsic evidence where the prosecution history incorporates it by reference or where the examiner considered it during examination. The Federal Circuit has considered provisional applications "incorporated by reference" into a patent as part of the intrinsic evidence when construing that patent's claim terms. *See Vederi, LLC v. Google, Inc.*, 744 F.3d 1376, 1383 (Fed. Cir. 2014) (relying on the disclosure of the provisional application to

refute the district court's construction of "vertical flat …" for the claim term "images depicting views of objects in a geographic area …", specifically noting that "[f]or starters, the provisional application incorporated by reference into the Asserted Patents notes that 360 degree synthetic panoramas may be created if a sufficient number of cameras are used"). Many district courts have followed in the same manner. *See In re MyKey Tech. Inc. Patent Litig.*, No. MDL 13-02461 GAF, 2014 WL 2740733, at *21 (C.D. Cal. June 17, 2014) (adopting a construction for "exact copy" that relies on language found in the provisional application to which the asserted patent claimed priority and incorporated by reference); *see also MediaTek, Inc. v. Freescale Semiconductor, Inc.*, No. 11-5341 YGR (JSC), 2013 WL 5236709, at *4 (N.D. Cal. Sep. 17, 2013) (finding the provisional application—incorporated by reference into one of the patents-at-issue—qualified or limited the specification language); *In re Method of Processing Ethanol Byproducts and Related Subsystems (%2C858) Patent Litig.*, No. 1:10-ML-02181-LJM, 2013 WL 372240, at *8 (S.D. Ind. Jan. 29, 2013) (discussing the disclosure of the percent recovery of oil in the patented process from the provisional application, "incorporated by reference into all of the patents" in the asserted patent family); *Linksmart Wireless Tech., LLC v. T-Mobile USA, Inc.*, No. 2:08-CV-264-DF-CE, 2010 WL 2640402, at *5 (E.D. Tex. June 30, 2010) (relying on a provisional application "which is fully incorporated by reference" in construing the claims); *Juniper Networks, Inc. v. Bahattab*, No. 07-1771 (PLF)(AK), 2009 WL 1285916, at *2-3 (D.D.C. May 8, 2009) (relying on defendant's provisional application incorporated by reference into the non-provisional application and patent in construing the claims); *cf. Vesture Corp. v. Thermal Solutions, Inc.*, 284 F.Supp.2d 290, 302 (M.D. Cal. 2003) (finding a provisional application instructive and adding support to the defendants' interpretation of the intrinsic

evidence, without addressing the plaintiff's argument that the provisional application was not incorporated by reference and was therefore outside the prosecution history).

dunnhumby relies on *Chicago Mercantile Exchange,* in support of its argument that a provisional application "is part of the complete record of the proceedings before the USPTO." (R.163, at 4) (citing *Chicago Mercantile Exch. Inc. et. al. v. Tech. Research Grp., LLC*, 721 F.Supp.2d 785, 793, n. 11 (N.D. Ill. 2010)). *Chicago Mercantile Exchange,* however, does not suggest that a provisional application always becomes intrinsic evidence. It further does not indicate whether the file wrapper for the patent-at-issue included the provisional application at issue or whether it was incorporated by reference.[4] Furthermore, *Chicago Mercantile Exchange* relies on a single exemplary case, *Juniper Networks,* in support of its conclusion that provisional applications are part of the intrinsic record. *See Chicago Mercantile Exch.*, 721 F.Supp.2d at 793, n. 11 (citing *Juniper Networks*, 2009 WL 1285916, at *6). The *Juniper Networks* defendant's non-provisional application and issued patent, however, incorporated by reference the provisional patent application. *See Juniper Networks*, 2009 WL 1285916, at *3. dunnhumby's reliance on *Chicago Mercantile Exchange* is, therefore, misplaced.

dunnhumby also relies on Section 706.02 from the Manual of Patent Examination and Procedure ("MPEP") to support its position that examiners must consider the disclosure of a provisional application to assess the true priority date of a patent application. (*See* R.163, at 3.) Section 706.02 describes how a patent examiner determines the effective filing date of an application in order to examine and reject claims based upon the prior art. (MPEP § 706.02.)

[4] Similarly, dunnhumby's reliance on *Avante Int'l Tech. v. Premier Election Solutions, Inc.,* is equally deficient as the district court in that case was not confronted with a dispute regarding the status of the provisional application as intrinsic or extrinsic evidence and, despite dunnhumby's assertion (R.163, at 4), the opinion does not state whether the patents-at issue incorporated the provisional applications by reference and dunnhumby does not provide the Court with any additional evidence to resolve the question. *See Avante Int'l Tech. v. Premier Election Solutions, Inc*., 663 F.Supp.2d 778, 784 (E.D. Miss. 2009).

dunnhumby conceded during the *Markman* hearing that examiners will not look at the provisional application unless a priority issue comes up during prosecution, "[b]ut the examiner certainly has access to the provisional application and can use it as part of the prosecution." (*Markman* Hrg. Tr., Jan. 26, 2015, 222:4-15.) The PTO examiner's ability to access and use the provisional application if necessary without evidence that the examiner did so in this case, however, fails to establish that the provisional application becomes part of the intrinsic evidence.[5]

Because dunnhumby has failed to establish that the file history included the '207 Provisional Application or that the PTO considered it during prosecution, the Court will treat it as relevant extrinsic evidence. *See Interval Licensing*, 766 F.3d at 1374 (explaining that in addition to consulting the specification, court "may also consider the prosecution history and any relevant extrinsic evidence").[6] Treating a provisional application—neither incorporated by reference into the patent nor addressed by the examiner during prosecution—as extrinsic evidence also comports with the public notice requirements served by the intrinsic evidence. *See*

[5] dunnhumby's additional reliance during the *Markman* hearing on 37 CFR § 1.57, entitled "Incorporation by reference," is also misplaced. Specifically, dunnhumby asserts that although Section 1.57 does not apply to this case because of the '442 Patent's filing date; the rule, nonetheless, stands for the proposition that today "if a patent claims priority to the provisional application, that provisional application is automatically incorporated by reference." (*Markman* Hrg. Tr., Jan. 26, 2015, 179:18-21; 180:5.) Section 1.57, however, does not address issued patents that do not explicitly incorporate by reference their priority provisional applications and the consideration to be given to those provisional applications during claim construction. Instead, Section 1.57 addresses the inadvertent omission of all or a portion of the specification or drawings that is completely contained in a priority provisional application, and further addresses the necessity of making amendments during prosecution to remedy the omission within a time period that is "in no case later than the close of prosecution as defined under [37 CFR 1.114(b)]." 37 CFR 1.57(a)(1). Accordingly, this rule is not only inapplicable, but equally unpersuasive to the situation presented by the '442 Patent that has already issued and was not amended to incorporate the '207 Provisional Application by reference.

[6] Because dunnhumby's allegations that the '442 Patent claims fail to meet the written description requirement under 35 U.S.C. § 112 ¶ 1 are premature (*see supra*, Section IV), the Court does not address the relevance, if any, of the '207 Provisional Application in conducting a written description analysis of the '442 Patent claims.

Arlington Indus., Inc. v. Bridgeport Fittings, Inc., 345 F.3d 1318, 1330 (Fed. Cir. 2003) (citing *Tex. Digital Sys.*, 308 F.3d at 1202 ("When a patent is granted, prosecution is concluded, the intrinsic record is fixed, and the public is placed on notice of its allowed claims."); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) ("The claims, specification, and file history, rather than extrinsic evidence, constitute the public record of the patentee's claim, a record on which the public is entitled to rely")).

Keeping the above legal framework for claim construction and indefiniteness in mind, along with the scope of the intrinsic and extrinsic evidence, the Court addresses each of the disputed claim terms below.

I. "Query Template"

Disputed Claim Term	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**	**Court's Construction**
"query template"	"a collection of preset information that is added to or modified to create an executable request for information"	Indefinite If not indefinite, then: "a graphical user interface via which a user edits and views a database query"	a collection of preset information that is added to or modified to create a request for specific or certain data

The disputed term "query template" appears in Claims 1 and 13. (*See* R.141, Joint Claim Construction Chart, at 1; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) dunnhumby argues that "query template" is indefinite because it covers multiple plausible template forms for use in creating a query. (*See* R.123, at 8; R.163, at 12-17.) dunnhumby and emnos agree that the intrinsic evidence does not recite the term "query template." (R.123, at 8; R.129, emnos's Resp. Claim Construction Br., at 11.) dunnhumby, therefore, argues that three possible meanings exist for "query template": a paper template, a code template, and a graphical user interface template. dunnhumby asserts that, given these meanings, the person of ordinary

skill in the art would not be able to identify with "reasonable certainty," as required by *Nautilus*, the scope of the invention, rendering the claim term indefinite. (R.123, at 11 (citing R.123-1, Keller Decl., at PX11, ¶ 35); R.163, at15.) Although dunnhumby argues "the specification provides no guidance of which type of template is intended," it relies on both intrinsic and extrinsic evidence to support its proposed meaning of "query template"—presuming it is found definite. (*See* R.123, at 8; R.123-1, at PX11, ¶¶ 30-35.) emnos responds, however, that the concept of "query template" in the specification is not tied to graphical user interfaces or displays and that the Court should not limit the term as such. (R.129, at 12-14; R.173, at 14-17.)

A. The Intrinsic Evidence

The '442 Patent claims recite "query template" in three steps of the claimed method for facilitating execution of a query on a database. Specifically, "query template" appears in the step for: (1) receiving a selection of a query type, which corresponds to a "query template"; (2) executing the SQL statement to add the query field and the query criteria to the "query template"; and (3) saving the "query template" to the query database. (R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.)[7] These claimed steps ultimately result in the use of the query template "to create a stored query" that is later executed on the database. (R.122-1, at JA14, Claim 1, 12:2.)

The parties agree that the specification does not use the term "query template" or "template" alone. (*See* R.123, at 7; R.129, at 11; *see also generally*, R.122-1.) The specification does, however, define "query" as "a request by a user for specific data" (R.122-1, at JA11, col.5:21-22), "a request for certain data," (*id.*, at JA9, col.1:53-54), and also refers to the query

[7] The recitation of "query template" in Claim 13 is identical to that in Claim 1, as all of the steps recited in Claim 1 are included in Claim 13. (*Compare* R.122-1, at JA14, Claim 1 *with id.*, at JA15, Claim 13.) The same holds true for all the remaining disputed terms addressed herein.

"contain[ing] a list of criteria that data must meet" (*id*., col.1:54-55). Although the specification does not specifically recite "query template", it is used in the claims in a manner consistent with the technical understanding that a person of ordinary skill would have of the term "template." Generally, in the field of computer science, a "template" is "a document or file having a preset format, used as a starting point for a particular application so that the format does not have to be recreated each time it is used." THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1781 (4th ed. 2000); *see also* MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 2116 (6th ed. 2002) (defining "template" as used in *Computer Science* as "a prototype pattern against which observed patterns are matched in a pattern recognition system" or "a computer program that is used in conjunction with an electronic spreadsheet to solve a particular type of problem"). This definition is consistent with that portion of emnos's proposed construction corresponding to "template." Furthermore, it is consistent with the specification's discussion of the problems solved by the invention of the '442 Patent which includes use of a "query template" that can be stored and later retrieved. (*See* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) The specification states:

> In database systems of the prior art, when a user created a query, the requested data was typically retrieved for use by the user that entered the query. If another user wished to request the same data, or if the same user wished to run the query again, he would have to reenter all of the elements of the entire query. This resulted in several problems. The re-entering of query requests may become time consuming, especially in the case of relatively complex queries.

(*Id.*, at JA11, col.5:27-34.)

> Saving queries to a central database enables other users to run the same query again by merely retrieving the previously saved query. Furthermore, a user can make small modifications to the query more easily by retrieving a saved query and making modifications, as opposed to having to create a query from the beginning.

(*Id.*, col.5:34-39.) The specification further addresses creating a stored query by first entering a query on the database, stating:

> A query may be entered into the database system through various methods. For example, a graphical user interface may be present to allow the entry of query elements through the use of pop-up lists, radio buttons, check boxes, and the like, a user may be able to select certain fields upon which to run a query.

(*Id.*, col.6:26-31.) In the "Summary of the Invention", the specification also addresses the "method for executing a database query" as including creation of a query followed by generation of an SQL statement that both represents the query and that the user can manipulate:

> A user creates a query using a variety of methods, such as a graphical method. A database system then generates an SQL statement that represents the query entered by the user and displays the SQL statement to the user. The user is then able to directly manipulate the SQL statement by editing, adding, deleting, etc. elements to the SQL statement.

(*Id.*, at JA9, col.2:34-38.) The specification further describes a "query editor" which is a "more sophisticated query system … that offers advanced query functionality to advanced users." (*Id.*, at JA12, col.7:47-49.) The Query Editor "provides a method to graphically create such SQL statements." (*Id.*, col.7:66-67.) Figure 4 of the '442 Patent illustrates—by simple text boxes—"[t]he process of creating a query using Query Editor" dictating the following steps: (1) create new query; (2) set properties of query; (3) add SELECT, WHERE, and ORDER BY items; (4) validate query; and (5) execute query. (*Id.*, col.8:10-18; R.122-1, at JA4, Fig. 4.) An embodiment of the Query Editor is shown in Figure 3:

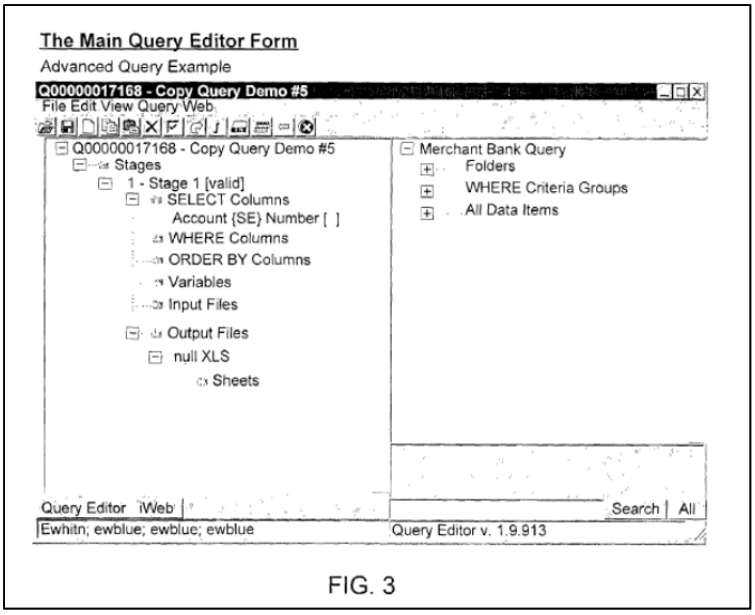

FIG. 3

(R.122-1, at JA3, Fig. 3.)

The term "query template" did not appear in the original claims as filed with the PTO. (R.122-2, at JA371-372.) During prosecution of the '442 Patent, Applicants added "query template" to the claims in place of "data file." (*Id.*, at JA130.) No discussion between Applicants and the PTO occurred surrounding the "query template" amendments, other than a brief recitation of the claimed steps, including those that recite "query template," as not taught by the prior art in the PTO's Reasons for Allowance. (*Id.*, at JA105.)

dunnhumby proposes three variant constructions for the "query template" term, including a paper template, code template and graphical user interface template. The first of these proposed meanings—a paper template—is inconsistent with the reference to "query template" in the claims for "a method of facilitating execution of a query *on a database*." (*See* R.122-1, at JA14, col.11:48-49.) The claims further dictate that the query template must be in a form that contains the underlying data which the user can save or store and later retrieve as a query. (*Id.*, at col.12:1-2 ("saving said query template within a first record of a query database to create a stored query").) (*See id.*, at JA14, Claim 1.) As emnos acknowledges, the proposal that the

person of ordinary skill would understand "query template" as used in the '442 Patent to include a paper template is contrary to the claim language itself. (*See Markman* Hrg. Tr., Jan. 26, 2015, 217:6-23.)

dunnhumby's proposed construction that limits the "query template" term to a graphical user interface is also improper. The claims do not mandate a graphical user interface and the specification's discussions of that medium are exemplary, as are the embodiments disclosed.[8] The Federal Circuit repeatedly has warned against limiting a claim to the disclosed embodiments, even when only a single embodiment disclosed or when multiple embodiments all contain the same feature, absent lexicography by the patentee or a clear disavowal. *See e.g., GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014). The specification and prosecution history of the '442 Patent do not define "query template" differently from the technical understanding of the words and do not indicate that the inventors intended to act as their own lexicographers. Similarly, while the specification discusses creation of queries using graphical user interfaces, graphical models, and visual models, it does not contain—and dunnhumby does not point to—any language of disavowal or disclaimer of the plain meaning of template. The repeated warning of the Federal Circuit, therefore, is applicable here and the '442 Patent's disclosure of "query template" should not be limited to the embodiments of graphical models nor should that limitation be read "into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *GE Lighting Solutions*, 750 F.3d at 1309.

[8] Indeed, during the *Markman* hearing, dunnhumby conceded in advocating for other disputed terms of the claim (e.g., "receiving a query field … from a user") that the limitations did not have to be limited to a graphical user interface and could be text-based computer interface. (*See Markman* Hrg. Tr., Jan. 26, 2015, 252:11-15.)

In arguing against dunnhumby's proposed construction limiting the term to a graphical user interface, emnos relies on a reference to "query template" from the prosecution history. Specifically, during prosecution of the '442 Patent, emnos asserts that "the examiner characterized the query template as electronic code used to run queries, which can be stored and used by others." (*See* R.173, at 16 (citing R.122-2, at JA163 ("While Brady allows query templates to be stored to enable common users to execute preconfigured queries, Brady does not disclose or suggest saving a query each time it is executed for the purpose of providing an analysis of the performance of the database and the usage of database fields")).) The Court does not rely on this statement as exemplary of the examiner's understanding of the claim term for at least two reasons. First, the examiner did not make the statement upon which emnos relies. Instead, Applicants made it in an attempt to distinguish Brady from the claimed invention by arguing that Brady failed to teach the last two steps of the claim (saving the stored query and performing an analysis of the query database). (*See* R.122-2, at JA157 (claim 1); *id.*, at JA163 (April 11, 2007 Amendment and Reply, signature page).) Second, Applicants specifically referred to "query template" as used in Brady, not the use of the term in the claimed invention. Indeed, the Applicants did not add the disputed "query template" claim term until seven months after they made the statement about Brady and once added, Applicants made no reference to Brady's disclosure of "query template". (*Compare* R.122-2, at JA157, 159 *with id.*, at JA130, JA132-33, JA136-37.) Although this discussion of Brady may not reflect the examiner's or Applicants' understanding of the claim term, it does reflect the person of ordinary skill's understanding of that term as used in the prior art at the time of the invention.

emnos's reliance on the use of "query template" in three United States patents cited during prosecution further supports the person of ordinary skill's understanding of the term at the

time of the invention. Although unrelated to the '442 Patent —U.S. Patent Nos. 5,664,173; 6,694,321; and 7,031,956—each cited on the face of the '442 Patent and in the prosecution history as "References Cited"—constitute intrinsic evidence. *See Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1231 (Fed. Cir. 2011) (citing *Kumar v. Ovonic Battery Co., Inc.*, 351 F.3d 1364, 1368 (Fed. Cir. 2003)) ("Our cases establish that 'prior art cited in a patent or cited in the prosecution history of the patent constitutes intrinsic evidence'"). While these cited patents do not directly describe a "query template" as a graphical user interface, they do, like Brady, provide an understanding of "query template" from the perspective of the person of ordinary skill in the art. Furthermore, the cited patents are consistent with the '442 Patent specification's discussion of using a file or statement or syntax that helps to define the specific data the user requests for a query. (*See* R.173-6, Ex. F, '173 Patent, col.3:66-4:33 (referring to "query template" as a meta-language statement and "query templates file" as a simple text file); R.173-7, Ex. G, '321 Patent, 10:45-67 (stating "A query template defines, for any given database operation, the data that a client application must provide to the target database, and the data which it requests in return"); R.173-8, Ex. H, '956 Patent, col.58:28-33 (representing "the instantiated query of the query template" by representative SQL syntax).)

B. "Query Template" Is Not Indefinite

The intrinsic evidence provides the person of ordinary skill in the art with a meaning that is reasonably certain and defines the objective boundaries as to the scope of "query template" as used in the '442 Patent. *See Interval Licensing*, 766 F.3d at 1371. Although dunnhumby contends the term is susceptible to multiple meanings, these meanings include those supported by the intrinsic evidence and are more reflective of the scope that "query template" has to the person of ordinary skill—a scope that includes templates that may be graphical user interfaces or

that may be files containing code. *See e.g., California Inst. of Tech. v. Hughes Commc'ns Inc.*, 35 F.Supp.3d 1176, 1194 (C.D. Cal. 2014) (post-*Nautilus* holding that just because "a term covers broad possibilities does not render it indefinite, as long as a person of ordinary skill can identify the outer boundaries, expansive though they may be"); *see also Takeda Pharm Co., Ltd. v. Mylan Inc.*, No. 13-CV-04001-LHK, 2014 WL 5862134, at *9 (N.D. Cal. Nov. 11, 2014) (citing *Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d 1339, 1353 (Fed. Cir. 2010) ("[m]erely claiming broadly" does not "prevent the public from understanding the scope of the patent"); *SmithKline Beecham Corp. v.Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005) ("breadth is not indefiniteness")). The intrinsic record, however, does not limit the medium for the "query template" as it refers to entering queries and "query template" by various methods and mediums used on a computer database, such as graphical user interfaces, visual models, graphical models, or information that creates files that can be stored as queries. (*See e.g.*, R.122-1, at JA14; col.12:1-2 ("saving said query template within a first record of a query database to create a stored query"); *id.*, at JA11, col.6:26-31 ("A query may be entered into the database system through various methods. *For example*, a graphical user interface may be present …); *see also* R.173-6, Ex. F, '173 Patent, col.3:66-4:33 (referring to "query template" as a meta-language statement and "query templates file" as a simple text file); R.173-7, Ex. G, '321 Patent, 10:45-67 (stating "A query template defines, for any given database operation, the data that a client application must provide to the target database, and the data which it requests in return"); R.173-8, Ex. H, '956 Patent, col.58:28-33 (representing "the instantiated query of the query template" by representative SQL syntax).)[9]

[9] Because the intrinsic evidence provides an understanding of the disputed "query template" term, the Court does not consider the parties' submitted extrinsic evidence in alleged support of this term. *See Eidos Display, LLC v. AU Optronics Corp.*, ___ F.3d ___, 2015 WL 1035284, at * 4 (Fed. Cir. 2015) ("To the extent the district court considered extrinsic evidence in its claim construction order or summary

The intrinsic evidence of the '442 Patent supports an understanding of "query template" as a template to create a query, where the query is understood to be a request by a user for specific or certain data and the template is understood to be a collection of preset information that is added to or modified by the user to create a query. The specification defines "query" as "a request by a user for specific data" and as "a request for certain data." (R.122-1, at JA9, col.1:53-54; *id.*, at JA11, col.5:21-22.)[10] The person of ordinary skill also has an understanding of "template" based on its ordinary meaning and the intrinsic record of the '442 Patent.

dunnhumby, therefore, has failed to establish by clear and convincing evidence that the term "query template" is indefinite. The Court finds the term "query template" has a meaning that is reasonably certain as to the correct scope understood by the person of ordinary skill in the art and the Court construes "query template" to mean "a collection of preset information that is added to or modified to create a request for specific or certain data."

II. "Selection of a Query Type"

Disputed Claim Term	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**	**Court's Construction**
"selection of a query type"	"a selection of a type of information to be requested from the database"	Indefinite If not indefinite, then: "a selection by a user of a specific query template [as construed] according to a user's skill level, such as 'Basic,' 'Advanced,' or Programmer'"	Indefinite

judgment order, that evidence is ultimately immaterial to the outcome because the intrinsic record is clear").

[10] Despite the explicit definitions for query found in the '442 Patent specification, emnos's proposed construction refers to query as "an executable request for information." This definition is not supported by the specification and refers to "query" in a manner that does not align with the specification. As such, the Court does not adopt this latter portion of emnos's proposed construction.

The disputed term "selection of a query type" appears in Claims 1 and 13. (*See* R.141, at 2; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) emnos contends that "selection of a query type" has a plain and ordinary meaning to the person of ordinary skill in the art. (R.129, at 7-10; R.173, at 9-13.) dunnhumby argues that "query type" does not have a plain and ordinary meaning and that it is indefinite because it could take on many possible meanings, such as the type of query based on the skill level of the user, the type of business analysis the user wishes to perform, or the type of SQL statement the user wishes to create using the template interface. (R.123, at 12; R.163, at 6-12.)

A. The Intrinsic Evidence

The '442 Patent claims reference "query type" twice. The first reference, "selection of a query type," is found in the receiving step of the claim after the input list—which includes the query criteria—has been received and stored:

> receiving a selection of a *query type* from said user, wherein said *query type* corresponds to a query template;

(R.122-1, at JA14, col.11:54-56 (emphasis added).) The claim later references the "query type" in the step creating the SQL statement:

> creating a Structured Query Language (SQL) statement based on said query field, said query criteria, and said *query type*;

(*Id.*, col.11:63-65 (emphasis added).)

The specification does not use the term "query type", but does address "the type of query" with a single statement in the specification referencing Figure 4: "When a user desires to create a new query (step 402), the Query Editor opens up and the user selects the basic properties of the query, such as the type of query desired (step 404)." (*Id.*, at JA12, col.8:10-13.) The specification does not address what basic properties of the query are contemplated by the

claimed method, nor does it address the correlation between "query type" and "query template" dictated by the claim language. (*See id.*, at JA14, col.11:54-56 ("wherein said query type corresponds to a query template")). In a testament to the generic nature of the word type, the references found in the '442 Patent specification to "type" are varied and provide no consistent meaning for the term alone. The Background of the Invention, for example, refers to the "types of data … important to a number of people such as, for example, sales data for a merchant, account information for a brokerage, bank, or credit card company, and/or the like." (*Id.*, at JA9, col.1:21-24.) The '442 Patent also contains a reference to the type of format or form in which the data is reported. (*See id.*, col.1:34-39 ("Instead, the user may desire to view the data in a more readable format, such as a spreadsheet-type format, for example").) The specification's reference to "certain types of information" is not made in regard to query type, but is explicitly made in reference to other claim terms—"input list" and "query criteria". (*Id.*, at JA12, col.7:4-7 (referencing "certain types of information that they may then incorporate as a query criteria").) Additional references to "type" in the '442 Patent specification do not provide specific guidance as to "query type." (*See id.*, at JA11, col.5:46-48 (referencing the "different types of computer platforms"); *id.*, at JA12, col.8:4-5 (referencing "type of pointing device to drag the desired fields to the query tree"); *id.*, col.8:64-66 (referencing "the data type of the field"); *id.*, at col.8:67-9:2 (referencing "drop box type selection tool"); *id.*, at JA13, col.9:52-58 ("any type of file may be transmitted using report module … "files of any type may also be placed in a report file").)

The term "selection of a query type" was added to the claims—along with "query template"—as part of the last claim amendments made to overcome the PTO's rejections based upon prior art. (R.122-2, at JA130-33.) Like with the "query template" term, no discussion

between Applicants and the PTO occurred surrounding the "selection of a query type" and "query type" amendments, other than a brief recitation of the claimed steps, including those that recite "query type," as not taught by the prior art in the PTO's Reasons for Allowance. (*Id.*, at JA105.)

The intrinsic evidence does not provide direction as to the meaning of query type or what properties of the query, the term "type" correlates to. Given that the intrinsic evidence is void of explanation for the term, it is particularly helpful to look to the relevant extrinsic evidence and the expert opinions as to the meaning of the term to the person of ordinary skill in the art. *See Nautilus*, 134 S.Ct. at 2130 (quoting *Markman*, 517 U.S. at 389) (explaining that "claim construction calls for 'the necessarily sophisticated analysis of the whole document,' and may turn on evaluations of expert testimony"); *see also Mycone Dental Supply Co., Inc. v. Creative Nail Design, Inc.*, 2014 WL 3362364, at *3 (D.N.J. July 9, 2014) ("Because the *Nautilus* court emphasized that the definiteness inquiry requires reasonable certainty, not simply some meaning, an expert witness could be helpful in discerning whether the patent claims would inform a skilled artisan with reasonable certainty at the time of the invention.")

B. The Extrinsic Evidence

The extrinsic evidence here demonstrates that multiple plausible meanings exist for "query type" as used in the context of the '442 Patent. First, the '207 Provisional Application has a specific definition for "query type" stating: "Query Type is the functional type of the query (Basic, Advanced, Programmer, etc.)" (R.122-3, at JA481; *see also id.* ("Query Editor will permit you to open any query on the system, regardless of what type of query (Basic, Advanced, Programmer, etc.)"; *id.*, at JA493 ("Query Type is the type of query you're going to create. Current options include Basic, Advanced, Programmer and Programmer Prompted. Many

functions and options in Query Editor are connected to a specific query type, and the forms will reflect these differences …").) Additional explanations of the basic, advanced, and programmer form of the query type are also addressed:

> 2. **Query Type: Basic.** This is the collection of components that enables web-based query creation in simple, highly controlled templates. 3. **Query Type: Advanced.** This is one of the query types currently available in the Query Editor desktop application. It is used by select advanced users, and while it is still 'point-and-click,' it enables much more sophisticated query creation. 4. **Query Type: Programmer.** This query type is also developed using Query Editor, and it is primarily used by technical contractors to complete more complicated queries …"

(R.122-3, at JA394 (emphasis added).) In arguing against a definition provided for "query type" by the '207 Provisional Application, emnos asserts that this "is not a viable definition of a 'query type'" and concedes that "nothing in the specification of file history supports dunnhumby's arguments that a 'query type' can be or must be formed in that fashion." (R.173, at 12.)

Looking then to the experts, emnos's expert, Mr. Ian Jestice, opines that "selection of a query type" has a plain and ordinary meaning. After first reciting the specification's definition for "query," Mr. Jestice states "A person of ordinary skill in the art would understand that a type is a category of information having common characteristics." (R.129-1, Jestice Decl., at DX6, ¶ 24; *see* R.173, at 10.) Mr. Jestice, however, fails to provide any support for this statement. After collecting the definition for "query" from the specification with the unsupported definition for "type", Mr. Jestice concludes that "the query type is a request by a user for specific data of a category of information having common characteristics, which is a user's request for information." (R.129-1, at DX6, ¶ 24.) In support of his definition, Mr. Jestice asserts that the specification sufficiently describes receiving a selection of a query type as part of the report ordering process." (*Id.*; *see also* R.173, at 10.) The passage upon which Mr. Jestice relies, however, makes no reference to "query type", stating:

> In a typical database system, a user performs a query by requesting data that meets certain criteria. The criteria may be relatively simple, such as requesting all data from a particular time period, to very complex criteria that involves restrictions to numerous fields.

(R.122-1, at JA11, col.5:23-26.) This passage, instead, refers to "criteria" which implies a separate claim term, "query criteria," and the specification makes no distinction between "query criteria" and "query type"[11] (*See id.*, at JA14, Claim 1; *id.*, at JA15, Claim 13.) Mr. Jestice's position that the specification's discussion of criteria is reflective of the disputed "query type" claim term is therefore misplaced. As such, Mr. Jestice's opinion as to this term is unsupported as he fails to cite any additional evidence in support of his alleged plain and ordinary meaning. *See SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1210 (Fed. Cir. 2013); *see also Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 709 F.3d 1348, 1361 (Fed. Cir. 2013).

According to dunnhumby's expert, Dr. Keller, "query type" has no plain and ordinary meaning to those of skill in the art and the single reference to "type of query" in the specification would leave the person of ordinary skill guessing at the terms meaning. (*See* R.123, at 11-12; R.123-1, Keller Decl., at PX11, ¶ 36; R.163, at 7; R.163, at 7-9.) In reviewing the specification, prosecution history and various dictionaries, treatises, and text-books, Dr. Keller opines that the reference to "query type" has multiple, differing, plausible definitions in the context of the '442 Patent. (*See* R.123-1, at PX10-11, ¶¶ 30-34.) Dr. Keller opines that "query type" "might refer to the type of business analysis the user wishes to perform using the SQL statement (e.g., sales analysis, account information, profit-loss analysis, comparative analysis, analysis over time.)" (R.123-1, at PX12, ¶ 38; R.163, at 9.) This definition vaguely echoes the discussion from the '442 Patent specification in the Background of the Invention, referring to the "types of data …

[11] The lack of distinction between the claims terms ("query type," "query criteria," "query template," and "query field") in conjunction with the failure to provide specific meanings for these terms is further evidence of the lack of direction in the specification regarding the "query type" claim term. (*See generally,* R.122-1.)

important to a number of people such as, for example, sales data for a merchant, account information for a brokerage, bank, or credit card company, and/or the like." (R.122-1, at JA9, col.1:21-24.) Dr. Keller also opines that the term "might refer to the skill level of the user, such as 'beginner,' 'advanced,' or 'programmer,' where the complexity of the query template is tailored to the user's skill level." (R.123-1, at PX12, ¶ 39; R.163, at 9.) This definition is supported by the extrinsic evidence—the '207 Provisional Application's discussion of the Beginner, Advanced, and Programmer Query Types having various levels of complexity for various skill levels of users. (*See* R.122-3, at JA394, JA481, JA493.)

Dr. Keller's additional meaning for "query type" as a reference to the type of SQL statement is supported by an inference in the specification's single discussion of "type of query". (*See* R.123-1, at PX11, ¶ 37; R.163, at 9.) In particular, the specification explains that in using the Query Editor, the user "selects the basic properties of the query, such as the type of query desired (step 404). The user *then* adds the SELECT, WHERE, and ORDER BY items via the drag-and-drop method described above (step 406)." (R.122-1, at JA12, col.8:11-15.) As such, the specification teaches that the instructions from the SQL statement are added after the "query type" is already selected, but the specification is silent as to the relationship between the type of query and the type of the SQL statement.[12] The meanings proposed by Dr. Keller highlight the difficulty the person of ordinary skill would have in determining "query type" and although emnos provides a proposed construction that in the abstract sense could be plausible, it provides no support for that construction in the intrinsic—or extrinsic—evidence. This absence of

[12] Dr. Keller's final proposal that "query type" could be a reference to "whether the data to be queried is the public data or the private data or both, …" finds no support in the specification or as provided by Dr. Keller's declaration and is therefore disregarded. (*See* R.123-1, at PX12, ¶ 40; R.163, at 9; *see also* R.173, at 12-13.)

evidence leaves the person of ordinary skill guessing as to the meaning of "query type" in the context of the '442 Patent.

The general definition of "type" and the definition as used in computer science, do not assist with the lack of clarity here. Indeed, reliance on these definitions interjects additional uncertainty to the scope and meaning of the term "type" as used in "query type." First, the general definition of "type" is similar to the generic statement offered by Mr. Jestice, and states various definitions for "type" as "1. A number of people or things having in common traits or characteristic that distinguish them as a group or a class. 2. The general character or structure held in common by a number of people or things considered as a group or class. 3. A person or things having the features of a group or class. 4. An example or a model having the ideal features of a group of class; an embodiment." (THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1864 (4th ed. 2000)). The more specific definition of "type" found in a computer science technical dictionary refers to the nature of the programming variables. The definition further implies a role for the user to affirmatively declare the range of values and operations to be performed. The technical definition of the noun "type" is "1. In programming, the nature of a variable—for example, integer, real number, text character, or floating point number. Data types in programs are declared by the programmer and determine the range of values a variable can take as well as the operations that can be performed on it." (MICROSOFT COMPUTER DICTIONARY 534 (5th ed. 2002).) These definitions only serve to further highlight the wide scope for "type" as used in the ordinary sense and even in the technical sense relative to the computer science field of the '442 Patent. The person of ordinary skill apprised of these definitions would not be informed of any reasonable certainty as to the scope of "query type" in the '442 Patent as questions revolve around which characteristic or programming variable

defines the "type of query" or which operation of the query or level of complexity specifies the "query type." In other words, the term "query type" as used in the '442 Patent encompasses any collection of common traits and characteristics or properties and operations in a query without giving any guidance as to those specific traits, characteristics, properties or operations encompassed by the claims.

Based on the lack of guidance in the intrinsic evidence and the additional meanings of the term in the extrinsic evidence, the Court finds the term "selection of a query type" to be indefinite. The person of ordinary skill is not given any parameters for reasonable certainty as to what "query type" refers to in the claim language and multiple plausible meanings exist without guidance among them. *See Interval Licensing*, 766 F.3d at 1371 (citations omitted) (explaining that under *Nautilus* terms that are subject to multiple plausible meanings to a person of ordinary skill in the art may be indefinite); *see also Honeywell Int'l Inc. v. ICM Controls. Corp.*, No. 11-569, 2014 WL 4248434, at *10 (D. Minn. Aug. 27, 2014) ("Since the two options [for interpreting the claim] entail differing limitations for the claim, the missing langue in claim 1 results in lack of reasonable certainty as to its scope"); *Atlas IP v. St. Jude Medical, Inc.*, No. 14-21006, 2014 WL 3764129, at *11 (S.D. Fl. July 30, 2014) ("Because the language of the [patent] does not mandate either interpretation, the term is indefinite"); *Light Transformation Techs. LLC v. Lighting Science Grp. Corp., et al.*, No. 2:12-cv-826-MHS-RSP, 2014 WL 3402125, at *9 (E.D. Tex. July 11, 2014) (finding the claims indefinite because the term "axis of light direction" was subject to multiple plausible constructions as there could be multiple centers of directed light).

Accordingly, the claim term "selection of a query type" as used in the '442 Patent is indefinite.

III. "Database Field"

Disputed Claim Term	emnos's Proposed Construction	dunnhumby's Proposed Construction	Court's Construction
"database field"	"a category of data of a particular type in a database (e.g., geographical data, product data, group data, etc.)"	"a location in a database table in which a particular type of data is stored, characterized by a field name (e.g., first name, last name, city, state), size and type of data that can be placed in them (e.g., alphabetic, numeric or financial)" or "a column in a database table having a field name in which a particular type of data is stored"	a location in the database having a field name in which a particular type or item of data is stored

The disputed term "database field" appears in Claims 1 and 13. (*See* R.141, at 2; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) The disputed term is recited in the first and final steps of the claimed method for facilitating execution of a query on a database. (*Id.*) The first step recites "receiving an input list from a user, wherein said input list includes query criteria relating to a field in said database." (R.122-1, at JA14, col.11:48-52.) The final claim step references the analysis performed on the query database after the stored query is executed, stating:

> performing an analysis of said query database, wherein said analysis is based on performance data resulting from execution of said stored query on said database, and wherein said analysis determines at least one of database fields that are queried least often and database fields that are queried most often.

(*Id.*, col.12:7-13.) The claims, therefore, refer to the database fields as fields that are queried when the query is executed. The specification supports this understanding. The Background of the Invention explains that "[d]ata stored in a database may be organized into various fields, each

of which stores an item of data." (*Id.*, at JA9, col.1:28-29.) The specification goes on to provide examples of the items of data that can be stored, "a database may store account data, with an account number stored in one field, an account balance in another field, and various user identification information stored in other fields." (*Id.*, at col.1:30-32.) The specification further provides "[a]n additional aspect of the present invention is the ability to run queries on the data within the database." (*Id.*, at JA11, col.5:20-21.) When discussing the operation of the manner in which the queries are executed and stored, the specification states "[a] user may enter various elements of a query for various fields of a database." (*Id.*, col.5:62-63.) When describing entry of a query into the database system, the specification states "a user may be able to select certain fields upon which to run a query. A user may also be able to enter in the criteria for the field. For example, a user may select a date field and then enter a date for which records should be pulled." (*Id.*, col.6:29-33.)

During prosecution of the '442 Patent, the claims as originally submitted merely referenced "fields upon which a query is run"—later amended to "query field"—and then the additional term "database field" was added to the claims, and finally in the last set of amendments to the claims, the reference to "a field in said database" was added. (*See* R.122-2, at JA371-72, JA297-99, JA182-184, JA130, JA132-33.) In making these amendments, the parties do not highlight—and the Court did not find—any specific discussions regarding the meaning of "database field" or the distinction between "database field" and "query field."

The parties' proposed constructions both reflect the meaning for "database field" in the specification, but differ slightly. emnos's proposed construction references examples, stating "(e.g., geographical data, product data, group data, etc.)" and mandate characterization by "size and type of data that can be placed in them." (*See* R.141, at 2; R.129, at 21-23.) dunnhumby

argued that emnos's data examples find no support in the specification and emnos later agreed to remove them, but disagreed with construing the term to include limitations to the "size and type of data than can be placed in them," arguing that these limitations find no support in the specification. (*See* R.129, at 22; *see also Markman* Hrg. Tr., Jan. 26, 2015, at 242:25-243:14; 247:23-248:3.) The Court agrees. Although dunnhumby's original proposed construction contains additional limitations for the term, specifically referencing size and type of data, these limitations are not found in dunnhumby's alternate construction offered in its reply during claim construction briefing. (*See* R.139, dunnhumby's Reply Claim Construction Br., at 8-9.) During the *Markman* hearing, dunnhumby indicated that it would agree to withdraw the size and type limitations. (*See Markman* Hrg. Tr., Jan 26, 2015, at 242:14-21.) Indeed, without the "e.g." parenthetical, emnos's proposed construction and dunnhumby's alternate proposed construction are not far from one another. Furthermore, these proposed constructions both align with dunnhumby's proposed the plain meaning of the disputed term of field as "a location in a record in which a particular type of data is stored". (*See* R.123, at 14 (citing MICROSOFT COMPUTER DICTIONARY 210-11 (5th ed. 2002).) As such, the only meaningful difference between the competing constructions is dunnhumby's reference to "a column" which it supports with extrinsic evidence and alleges emnos's expert, Mr. Jestice, agrees with its construction. (R.139, at 9.) At the *Markman* hearing, emnos disputed Mr. Jestice's alleged agreement to dunnhumby's proposed construction as reasonable. It is unnecessary, however, for the Court to resolve this dispute because reference to expert testimony—or any extrinsic evidence—to determine the meaning of "database field" is unnecessary here since the meaning of the term is clear from the intrinsic evidence which does not support a limitation to column.

Accordingly, the Court construes "database field" to mean "a location in the database having a field name in which a particular type or item of data is stored."

IV. "Receiving a Query Field … From a User"

Disputed Claim Term	emnos's Proposed Construction	dunnhumby's Proposed Construction	Court's Construction
"receiving a query field … from a user"	"receiving a category of data of a particular type … from a user"	"receiving a specific database field [as construed], such as 'first name' or 'last name', from a user according to the user's selection or identification of that field using a graphical user interface" or "receiving a specific database field [as construed, such as 'first name' or 'last name', from a user according to the user's selection or identification of that field using a computer user's interface"	receiving a particular type or item of data used in a query … from a user

The disputed term appears in Claims 1 and 13. (*See* R.141, at 2; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) The parties agree that "query field" and "database field" are related terms as they both reference "field" and as shown by the use of the proposed constructions for "database field" in each of their proposed constructions for "query field." Specifically, emnos proposed "database field" means "a category of data of a particular type in a database" and that "query field" means "a category of data of a particular type." (*See* R.141, at 2; *see also Markman* Hrg. Tr., Jan. 26, 2015, 257:19-258:8; 260:4-10.) Similarly, dunnhumby proposed that database field means "a column in a database table having a field name in which a particular type of data is stored" and explicitly refers to "database field [as construed]" in its proposed construction of "query field." (*See* R.141, at 2.) The proposed constructions differ,

however, in that dunnhumby proposes an additional limitation of dictating the manner in which the user selects the query field/database field to the use of a graphical user interface or a computer user's interface. (*See id.*; *see also* R.123, at 15-17; *Markman* Hrg. Tr., Jan. 26, 2015, 252:18-253:13.) emnos argues that this additional limitation is improper. (R.129, at 15-16.)

The disputed claim term is found in one of the receiving steps of the claim, stating "receiving a query field and query criteria from a user, wherein said query criteria is selected from said input list by said user." (R.122-1, at JA14, col.11:60-62.) Additional dependent claims—Claims 4 and 5—further limit the "step of receiving said query field" to include additional limitations on the security of the system. (*Id.*, col.12:20-33.)[13] The claims do not specify a manner in which the query field is provided or received (e.g., by graphical user interface or computer user interface).

The specification references "query field" in a single paragraph describing Figure 8. (*Id.*, at JA12, col.7:21-44; *id.*, at JA8, Fig. 8.) Figure 8 is "a flowchart illustrating the operation of an Input List." (*Id.*, at JA10, col.3:7-8; *id.*, at JA8, Fig. 8.) Figure 8 references four steps, which include: (1) user creates list of desired criteria (step 802); (2) list uploaded to database system (step 804); (3) contents of list placed in query (step 806); and (4) validate contents (step 808). (*Id.*, at JA8, Fig. 8.) The specification states:

> When the user is creating a query, the user selects the input list and uploads the contents of the input list to the query (step 804). The list may be in a variety of formats, including the DBF format and ASCII text format. Thereafter, the contents of the list are entered into the appropriate field of the query and the user can commence with running the query or modifying various other *fields of the*

[13] During prosecution of the '442 Patent, the claims as originally submitted merely referenced "fields upon which a query is run," which was later amended to "query field" and then the additional term "database field" was added to the claims, and finally in the last set of amendments to the claims, the reference to "a field in said database" was added. (*See* R.122-2, at JA371-72; *id.*, JA297-99; *id.*, at JA182-184; *id.*, at JA130, JA132-33.) In making these amendments, the parties do not highlight—and the Court did not find—any specific discussions regarding the meaning of "query field" or any distinction between "database field" and "query field."

> *query* (step 806). This step may involve converting the data from the stored format (such as DBF or ASCII) into the query screen which may involve the use of SQL to enter the contents of the Input List into the *query field*.

(*Id.*, at JA12, col.7:26-36 (emphasis added).) The specification's discussion of the Query Editor also refers to selection of fields being indicted for the query, stating "a user may use a mouse, trackball, or other type of pointing device to drag the desired *fields to the query tree*." (*Id.*, col.8:4-5 (emphasis added).) The specification also references "fields" without specific attribution as to whether they are "query fields" or "database fields":

> Data stored in a database may be organized into various *fields*, each of which stores an item of data.

(*Id.*, at JA9, col.1:28-29 (emphasis added).)

> An additional aspect of the present invention is the ability to run queries on the data within the database. A query is a request by a user for specific data. In a typical database system, a user performs a query by requesting data that meets certain criteria. The criteria may be relatively simple, such as requesting all data from a particular time period, to very complex criteria that *involves restrictions to numerous fields*.

(*Id.*, at JA11, col.5:20-26.) Indeed many of these more generic references to "field" support the interchangeable reference to "field" as a field of the query and a field of the database that the parties advocate in their proposed constructions. The '442 Patent states, for example:

> This aspect of the invention operates in the following manner. A user may enter *various elements of a query for various fields of a database*. … Thereafter, various information regarding the query (such as *the fields* and criteria *of the query*) can be stored.

Id., col.5:62-63, *id.*, col.6:6-8.)

> A query may be entered into the database system through various methods. For example, a graphical user interface may be present to allow the entry of query elements through the use of pop-up lists, radio buttons, check boxes, and the like, a user may be able to *select certain fields upon which to run a query*. A user may also be able to enter in the criteria *for the field*. For example, a user may select a date field and then enter a date for which records should be pulled. In addition a user may be able to enter operators to clarify how the criteria are to be used. For example, with reference to a date field, a user may be able to select such that the

> records retrieved are after a specific date, before a specific date, or equal to a date. Similarly, a user may enter similar operators with reference to a numeric field. A user may also be able to use wildcard characters in order to search for various forms of words.

(*Id.*, col.6:13-20; *see also id.*, at JA12, col.8:62–JA13, col.9:9.) These discussions not only support similar treatment of the claim terms "query field" and "database field," but they also highlight the absence of a specified manner of selection for a query field. In particular, the specification does not limit the manner of selection for a query field to selection by a graphical user interface and dunnhumby's reliance on specific embodiments of the '442 Patent to find support for such a limitation is improper for the same reasons as those stated above regarding "query template." (*See supra*, III; *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (explaining that a claim should not be limited to disclosed embodiments even when the limitation is found in the only single embodiment disclosed or in multiple embodiments, absent lexicography by the patentee or a clear disavowal).)

Accordingly, the Court construes "receiving a query field … from a user" to mean "receiving a particular type or item of data used in a query … from a user."

V. "Executing Said SQL Statement to Add Said Query Field and Said Query Criteria to Said Query Template"

Disputed Claim Term	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**	**Court's Construction**
"executing said SQL statement to add said query field and said query criteria to said query template"	"executing the SQL code to combine the query criteria and category of data of a particular type with the query template [as construed] to create an executable request for information"	Indefinite If valid, then: "executing the SQL statement created in the previous claim step to add the query field and the query criteria to the query template [as construed]"	executing the SQL statement to add the query field and the query criteria to the query template [a collection of preset information that is added to or modified to create a request for specific or certain data]

The disputed claim term "executing said SQL statement to add said query field and said query criteria to said query template" is found in Claims 1 and 13 of the '442 Patent as a separate step in the claim after the SQL statement is generated. (*See* R.141, at 3; R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13; R.139, at 12.) dunnhumby alleges that this claim term is nonsensical, but that if construed, it should have its plain meaning. (R.123, 17-19.)[14] emnos offers a proposed construction for the "executing" term that effectively echoes the language of the disputed phrase and adds an additional explanation "… to create an executable request for information." (R.129, at 16-19.)

The '442 Patent claims recite three steps in succession: a receiving step, a creating step and an executing step. (R.122-1, at JA14, JA15.) Specifically, the recited steps are directed to (1) receiving a query field and query criteria from a user; (2) creating an SQL statement based on the query field, query criteria and the query type—previously selected in a prior claim step; and (3) executing the SQL statement to add the query field and the query criteria to the query template. (*Id.*) The specification describes two of the recited steps—the receiving step and the creating step. (*See* R.122-1, at JA9, col.2:34-36, *id.*, at JA11, col.5:66-67 (describing the receiving step); *id.*, at JA9, col.2:38-41, *id.*, at JA11, col.8:15-16 (describing the creating step).) At this point, however, the specification and the claims seem to diverge as the specification does not discuss how executing the SQL statement can add the selected query field and query criteria to a query template. When discussing execution of the SQL statement, the specification repeatedly references execution of the SQL statement *after* the *query* is created, but does not discuss execution of the SQL statement to add the field or criteria to the query template. (*See*

[14] Although dunnhumby originally listed the "executing" term of the '442 Patent in its opening claim construction brief as invalid for indefiniteness (R.123, at 17; *see also Markman* Hrg. Tr., Feb. 4, 2015, at 2:11-25), its argument was undeveloped and dunnhumby no longer pursued the issue in supplemental briefing (*see generally* R.163). The Court, therefore, does not consider whether the disputed "executing" claim term meets the indefiniteness requirements.

e.g., R.122-1, at JA9, col.1:57-58 ([t]he query is then executed …"); *id.*, col.2:32-44 ([a] method for executing a database query … the SQL statement is executed. The results of the SQL statement execution may be made available to the user …"); *id.*, at JA10, col.3:36-38 ("… makes it easier for users to execute various queries,…"); *id.*, at JA11, col.5:40-47 ("present invention involves the manner in which the queries are executed and stored. Queries may be configured to execute solely within the central server,…"); *id.*, col.5:66-col.6:2 ("the user can execute the query. Upon the execution of the query, …"); *id.*, col.6:42-44 ("the output generated by execution of a query"); *id.*, at JA12, col.8:15-16 ("the query is then executed (step 410)"); *id.*, at JA4 (Fig. 4 (showing "Execute Query" as step 410)).) The specification does not address the "executing" term, nor does it provide any figures or embodiments in the specification that demonstrate execution of an SQL statement resulting in adding the query field and query criteria to the query template.[15] (*See generally* R.122-1; *see also* R.123-1, Keller Decl., at PX15-16, ¶¶ 57-59.)

During prosecution of the '442 Patent, applicants added the "executing" term, along with the "query template" and "selection of a query type" terms as part of the last attempt to amend the claims to overcome the rejections based upon the prior art. (R.122-2, at JA130, JA132-33.) No discussion between Applicants and the PTO occurred surrounding the "executing" term amendment, other than a brief recitation of the claimed steps, including the step of "executing the SQL statement to add to a query template" as not taught by the prior art in the PTO's Reasons for Allowance. (*Id.*, at JA105.)

[15] In emnos's Non-Infringement, Enforceability and Validity Contentions, it cited only to the '207 provisional application for support of this claim term. (R.123, at 18 (citing R.123-2, Brandyberry Decl., Ex. A).) emnos does not rely on the '207 Provisional Application for this disputed claim term, however, in its claim construction briefing. (*See generally* R.129, at 16-19.)

emnos's proposed construction improperly broadens the concept of adding the query field and query criteria to the query template and adds an additional concept to the claim step that is not recited, namely, that executing the SQL statement to add the query field and query criteria to the query template is for the purpose of creating an executable request for information. (R.123, at 17.) emnos asserts that the first portion of its proposed construction—directed to combining the user parameters with the query template—is required by the claim language and the intrinsic evidence. (R.129, at 18.) The Court agrees, with the caveat that the act of combining is explicitly specified by the claim in a more narrow manner by reciting "adding". The second portion of emnos's proposed construction, however, is problematic as there is no support for creation of an executable request for information. Instead, the claim language dictates that after the "executing" step, the query template is saved to create a stored query. No support exists for this later step of storing the query to also mean the executing step creates an executable request for information. (R.122-1, at JA14, col.12:1-2.)

emnos relies on its expert, Mr. Jestice, for his opinion that the disputed "executing" term is directed to the process of gathering all of the necessary information to create the executable query. (*See* R.129-1, at DX 11, ¶ 37.) In alleged support of his opinion, Mr. Jestice relies on the specification "describing selecting a query field and a query criteria" and "creating an SQL statement using this data and the query template." (*Id.* (citing R.122-1, at JA9, col.2:33-36; *id.*, at JA11, col.5:62-67; *id.*, col.6:27-33).) These discussions, however, are not related to the "executing" step of the claim. Instead, they are related to the steps preceding the "executing" step, the step for "receiving a query field and query criteria from a user …" and for "creating a [SQL] statement". (*See* R.122-1, at JA14, Claim 1.) Mr. Jestice's opinion is therefore unsupported as he cites no additional support from the intrinsic or extrinsic evidence for the

additional limitation that this claimed step includes creation of an executable query or request for information.

emnos argues that dunnhumby's proposed construction is improper and feeds into its own nonsensical argument. dunnhumby responds that any nonsensical nature of its proposed construction is found in the claim language itself—as its proposed construction simply tracks the language of the claim. The Federal Circuit has addressed the potential nonsensical nature of a claim term, although in the context of a particular construction related to a finding of noninfringement. In *Chef America, Inc. v. Lamb-Weston, Inc.*, the Federal Circuit considered a patent relating to a process for baking dough so as to achieve a "light, flaky, crispy texture." *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372 (Fed. Cir. 2004). As written, the claims unambiguously required heating the dough "to a temperature in the range of about 400° F to 850° F." *Id.* at 1374. The patentee advocated for a construction that referred to the temperature range of the oven, not to the temperature of the dough itself, on the ground that if applied to the dough, the dough "would be burned to a crisp", rather the "light, flaky" product described in the claim and specification. *Id.* at 1371, 1373. The Federal Circuit, however, concluded that the claim language unambiguously required heating the *dough*, not the *oven*, to the specified temperature range, and held that courts may not redraft claim terms simply to avoid a "nonsensical result." *Id.* at 1374. Indeed, the Federal Circuit noted that it has "repeatedly and consistently recognized that courts may not redraft claims, whether to make them operable or to sustain validity." *Id.* (citing *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002); *Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302, 1308–09 (Fed. Cir. 2000); *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed. Cir. 1999); *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999); *Quantum Corp. v. Rodime, PLC*, 65

F.3d 1577, 1584 (Fed. Cir. 1995); *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 799 n. 6 (Fed. Cir. 1990). A claim that "is susceptible to only one reasonable construction" must be construed "based on the patentee's version of the claim as he himself drafted it," "not as the patentees wish they had written it." *Chef America*, 358 F.3d at 1374.

As in *Chef America*, the patentee here advocates for a construction that differs from the explicit language of the disputed claim term. Specifically, emnos proposes a construction for the executing term to mean execution of the SQL statement to combine query criteria and query field with the template *in order to create an executable request for information*, which effectively adds a second creating step to the claim limitation, a step that is not only redundant with the immediately previous "creating" step in the claim, but that provides a different purpose for the "executing" step than what is cited. The "executing" claim limitation does not refer to creation of an executable file. It only refers to execution of the created SQL statement to add query field and query criteria to the template. The plain language of the claim is understandable as to what it means and is susceptible to only a construction that honors the language as written. Whether it refers to a step that the person of ordinary skill may find nonsensical is irrelevant as it is not for the Court to redraft the claims in a manner that "the patentees wish they had written it." *See Chef America*, 358 F.3d at 1374. Ultimately, the question of whether this claim construction is nonsensical in a practical application would be addressed in an infringement analysis, which is not in front of the Court here. The Court's construction honors the claim language as written.[16]

Accordingly, the Court construes "executing said SQL statement to add said query field and said query criteria to said query template" to mean "executing the SQL statement to add the

[16] The Court does not include the portion of dunnhumby's proposed construction referring to the SQL statement as "created in the previous claim step" because this is implicit from the claim construction's use of "the" which refers back to the SQL statement created in the previous step. (*See* R.122-1, at JA14, col.11:63-67.)

query field and the query criteria to the query template [a collection of preset information that is added to or modified to create a request for specific or certain data]."

VI. "Query Database" / "Performing an Analysis of Said Query Database"

Disputed Claim Term	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**	**Court's Construction**
"query database"	"structured set of data that can perform functions such as searching and sorting, that stores code that represents the requests for information"	"a database containing the stored SQL queries"	a database (a structured set of data that can perform functions such as searching and sorting) that contains the stored queries
"performing an analysis of said query database"	"performing an analysis of data that results from executing queries on the query database [as construed]"	"performing an analysis on the query database [as construed]"	performing an analysis on the database that contains the stored queries

The disputed claim terms "query database" and "performing an analysis of said query database" are found in Claims 1 and 13. (*See* R.141, at 3; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) Because the terms are related to one another in language and in the intrinsic record they will be addressed together. The parties' proposed constructions for these two disputed terms are not that dissimilar. Indeed, during the *Markman* hearing, dunnhumby conceded that emnos's reference to a "structured set of data that can perform functions such as searching and sorting" was a reference to "database" and it did not contest that portion of emnos's construction. (*See Markman* Hrg. Tr., Feb. 4, 2015, 38:3-15.) dunnhumby does take issue with the second portion of emnos's proposed construction, arguing that the reference to "code that represents the requests for information" is too broad and allows for a database that stores more than the actual queries.

Unlike some of the other disputed terms, the use of the disputed "query database" terms in the claims is informative. Claims 1 and 13 include the following two steps of storing queries to the "query database" in the latter half of the claims:

> …
>
> saving said query template within a first record of a query database to create a stored query;
>
> receiving a selection of said stored query;
>
> executing said stored query against said database;
>
> saving said stored query in a second record of said query database;
>
> performing an analysis of said query database, wherein said analysis is based on performance data resulting from execution of said stored query on said database, and wherein said analysis determines at least one of: database fields that are queries least often and database fields that are queried most often.

(R.122-1, at JA14, col.12:1-17; *see also id.*, at JA15, col.14:6-17.)

The specification contains multiple references to the "query database" as storing queries:

> The database system includes the ability for the user to enter criteria for a query in a variety of different manners, including the ability to directly modify generated SQL statements and the ability to use input lists in creating queries. In addition, the *queries entered by the user can be stored in a separate database*, such that the efficiency and operation of the database system can be improved.

(*Id.*, at JA1, Abstract (emphasis added); *see also id.*, at JA11, col.5:47-60 (referencing queries as stored in the database, e.g., "queries also may be saved to a central database", "[s]aving queries to a central database enables other users to run the same query by merely retrieving the previously saved query", "[b]y virtue of the central storage, all queries can be backed up with the contents of the database").) The specification also addresses the performance of an analysis on the query database, focusing on the fields used in queries:

> *In addition to the storage of query itself*, various *performance information can also be stored* in a similar manner. In such a manner, the performance of queries can be tracked and analyzed. Through such an analysis, one may be able

> determine the performance of queries on certain fields. In addition, one can *determine which fields within a database are being used in queries* most often, and *what fields are used in queries least* often. The queries being run are an indication of how the database is being used.

(*Id.*, at JA11, col.6:13-25.)

The '442 Patent's prosecution history also relies on these claim limitations to distinguish over the prior art. Specifically, Applicants argued that the person of ordinary skill in the art would "immediately appreciate that, by storing a number of queries in a database, certain attributes can be deduced." (R.122-2, at JA247.) Applicants further stated "[i]f the above query, along with a number of other queries, were stored within a database table, a simple query could be formulated to determine, for example, how many stored queries contain the 'first_name' field." (*Id.*) Applicants distinguished the Piersol reference, arguing there was "no correlation between performing an analysis on a query based on performance data and Piersol's disclosure of saving comment data relating to a query." (*Id.*, at JA187.) Applicants further distinguished over Cambot and Piersol by arguing that neither reference discloses "sav[ing] an instance of a query each time it is executed" which prevents the person of ordinary skill from being able to "determine precisely how many times, and from where, data has been queried." (*Id.*, at JA223; *id.*, at JA162; *see also id.*, at JA224 (distinguishing over Tedesco and Brady for the same reasons).)

The intrinsic record supports a query database as a database (as understood by the person of ordinary skill)[17] that stores the queries. The claim language explicitly requires the query database to have at least two database records ("first record" and "second record") and for each

[17] The parties agree that "database" is understood by the person of ordinary skill in the art to mean "a structured set of data that can perform functions such as searching and sorting." (*See Markman* Hrg. Tr., Feb. 4, 2015, 38:3-15; *see also* MICROSOFT COMPUTER DICTIONARY 141 (5th ed. 2002) (defining "database" as "A file composed of records, each containing fields together with a set of operations for searching, sorting, recombining, and other functions").)

record to store queries. (R.122-1, at JA14; *see also* R.122-2, at JA185 ("Because the query is first saved to a 'first record' and subsequently saved as a 'second record,' it is apparent that each save transaction creates distinct instances of the same query").) The explicit language of the claims does not specify the format for the queries, e.g., SQL. The specification makes multiple references to the queries stored in the database and saved for performing analysis. The prosecution history provides additional evidence that the query database stores the actual queries—although there is no indication that it is limited to only storing queries as it could also store other data or files.

The parties' proposed constructions mainly differ in respect to the format in which the queries are stored. emnos proposes a broader definition of "code that represents the requests for information (or queries)" and dunnhumby proposes a more limited definition of "storage of SQL queries." These proposals flank the middle ground that the intrinsic record supports. dunnhumby relies on the arguments made during prosecution history as a basis for refuting "code that represents the requests for information" in emnos's proposed construction. Namely, dunnhumby contends that the broad language of emnos's proposed construction would include the comment data of Piersol and therefore encompass the prior art. Although the Court disagrees with dunnhumby because it is not clear from the intrinsic record that Piersol's comment data would be of a form to "represent[] the requests for information," it still finds emnos's reference to "code that represents the requests for information" to be improper. emnos's proposed construction allows for storage of something broader than the query—without dictating inclusion of the query itself. Nothing in the claim language, nor anything in the intrinsic record, limits the query database to only storing queries, but the claim language does explicitly require the query database to store the actual queries that are later executed on the database and then stored again

to become available for analysis. For these reasons, the Court rejects the latter portion of emnos's proposed construction and adopts a construction that mandates storage of the actual queries that are later run on the query database.

Similarly, dunnhumby's proposal to limit the "query database" to storage of SQL queries is also improper because nothing in the claims or intrinsic record limits the queries to SQL. Indeed, the first claim step that references "query database" is the step for storing the query template which then creates a stored query, but there is no indication in that limitation that the query template is converted into SQL and then stored as a query in SQL. The only limitation dictating the use of SQL is in the claim step to create an SQL statement that is executed to add the query field and the query criteria to the query template. (R.122-1, at JA14, col.11:63-67 (claim limitations creating the SQL statement and executing the SQL statement).)

Accordingly, the Court construes "query database" to mean "a database (a structured set of data that can perform functions such as searching and sorting) that contains the stored queries" and construes "performing an analysis of said query database" to mean "performing an analysis on the database that contains the stored queries."

VII. "Determines at Least One of: Database Fields That are Queried Least Often and Database Fields that are Queried Most Often"

Disputed Claim Term	emnos's Proposed Construction	dunnhumby's Proposed Construction	Court's Construction
"determines at least one of: database fields that are queried least often and database fields that are queried most often"	"determining the database fields [as construed] of the database that are queried either least often or most often"	Indefinite If not indefinite, then: "determining, based upon the analysis of all the database queries stored in the query database [as construed], database fields [as construed] of the database that are queried least often and/or most often"	determines at least one of: database fields [locations in the database having a field name in which a particular type or item of data is stored] that are queried least often or most often

The disputed claim term "determines at least one of: database fields that are queried least often and database fields that are queried most often" appears in Claims 1 and 13. (*See* R.141, at 4; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.)

A. Indefiniteness

dunnhumby argues that the '442 Patent does not provide any objective boundaries for which database queries are to be analyzed and over which period of time. (*See* R.123, at 24; R.163, at 17-20.) emnos responds that the claim term's straight forward language provides objective boundaries that satisfy the definiteness requirements of Section 112. (*See* R.129, at 23-25; R.173, at 23.)

The claim term at issue is found in the final step of the claim directed to "performing an analysis of the query database". (R.122-1, at JA14, col.12:7-12.) Performing the claimed analysis is limited in two ways. First, the analysis must be based on performance data resulting from execution of the query—stored in the previous step of the claim. (*See id.*, at col.12:7-9 ("wherein said analysis is based on performance data resulting from execution of said stored

query on said database").) Second, the analysis must include a determination of the database field queried least often, and/or the database field queried most often. (*See id.*, at JA14, col.12:10-12 ("and wherein said analysis determines at least one of: database fields that are queried least often and database fields that are queried most often").) The specification further addresses this second limitation on the performance step of the claimed method for facilitating execution of a query, stating:

> In addition to the storage of query itself, various performance information can also be stored in a similar manner. In such a manner, the performance of queries can be tracked and analyzed. Through such an analysis, one may be able [to] determine the performance of queries on certain fields. In addition, one can determine which fields within a database are being used in queries most often, and what fields are used in queries least often. The queries being run are an indication of how the database is being used.

(*Id.*, at JA11, col.6:13-21.) Together, the claim language and the specification inform the person of ordinary skill of the objective process encompassed by the claimed method.[18] dunnhumby's concern that the person of ordinary skill would not know which saved queries must be analyzed or how many query fields must be analyzed in order to satisfy the claim limitation is misplaced. The answer to these questions depends on the user's desired application of the performance analysis. Put differently, a determination of which queries or which fields were analyzed are not the indicators for a performance analysis that meets the limitations of the claims. As the claims state, it is the simple fact that there is a performance analysis conducted on queries in the database that determines which database fields are queried either least often or most often (or both). This is the target performance of the claimed limitation and it provides objective

[18] During prosecution of the '442 Patent, Applicants pointing the PTO to the same portion of the specification as that recited above, persuaded the examiner to withdraw the indefiniteness rejection of the "determines at least one …" claim term. (R.122-2, at JA254.) While not binding, an examiner's decision is "evidence the court must consider in determining whether the party asserting invalidity has met its statutory burden by clear and convincing evidence." *See Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1375-76 (Fed. Cir. 1999) (citations omitted).

boundaries of the claim to the person of ordinary skill in the art. The claim limitation is, therefore, not indefinite.

B. Claim Construction

As stated above, the claims and specification provide objective boundaries for the person of ordinary skill reading the '442 Patent and the performance analysis encompassed by the claims. dunnhumby's proposed construction that the Court limit this disputed term be limited to "*all* the database queries stored in the query database" fails to find support in the intrinsic record. Although dunnhumby's opening claim construction brief did not cite any evidence for this proposal, in its reply dunnhumby relies on the single example of how to conduct the claimed performance analysis in the specification (*see* R.122-1, at JA11, col.6:13-25), and argues that this example specifies a search conducted "on the query database and the search is run against all of the SQL queries stored in the query database" (R.139, at 15). The Court agrees with dunnhumby's first proposition because the claim language itself mandates that the performance analysis is run on queries in the query database, but this concept is not necessary to include here as it is addressed by another claim limitation—"performing an analysis of said query database". dunnhumby's second proposition of limiting the performance analysis to being run on all the queries in the database does not find similar support. Instead, the passage on which dunnhumby relies states "[t]hrough such an analysis, one may be able to determine the performance of queries on *certain* fields." (R.122-1, at JA11, col.6:16-17 (emphasis added).) The specification also teaches that "[a] user may enter various elements of a query for various fields of a database." (*Id.*, at JA11, col.5:62-63.) These passages imply that different queries will have different fields and if the performance analysis is run on certain fields, it may include fields that are not contained in all the queries and therefore, by design, would not conduct a performance

analysis of all the queries in the database. For these reasons, dunnhumby's proposed limitation is improper.

emnos's proposed construction refers to a determination of the database fields "of the database that are queried either least often or most often" which seems more restrictive than necessary as it suggests that you could not do both. The claim language, however, uses the phrase "determines at least one of" database fields that are queried least often or most often, which implies that the user could determine both. The Court, therefore, provides a construction that stays true to the scope provided by the claim language and construes "determines at least one of: database fields that are queried least often and database fields that are queried most often" to mean "determines at least one of: database fields [locations in the database having a field name in which a particular type or item of data is stored] that are queried least often or most often."

VIII. "Storing Said Input List With a Profile Corresponding to Said User"

Disputed Claim Term	**emnos's Proposed Construction**	**dunnhumby's Proposed Construction**	**Court's Construction**
"storing said input list with a profile corresponding to said user"	"saving the organized set of data and associating it with information about a user"	Indefinite If not indefinite, then: "storing the input list with the profile corresponding to the user (which is a computer-based record maintained about an authorized user of a multiuser system) so that a direct association between the input list and the profile is maintained"	storing the input list with the user's profile

The disputed term is found in Claims 1 and 13. (*See* R.141, at 4; *see also* R.122-1, at JA14, Claim 1; *id.*, at JA15, Claim 13.) The term is found in the second step of the claims after the user receives an input list which includes query criteria relating to a database field, the input list is stored with a profile corresponding to the user. (R.122-2, at JA14, Claim 1; *id.* at JA15, Claim 13.)

dunnhumby argues that while the latter part of the term "profile corresponding to said user" (a.k.a. "user profile") has a plain and ordinary meaning in the art, neither the '442 Patent specification nor the prosecution history say what it means to store something *with* a user profile. (R.123, at 25; R.163, at 4-5.) In supplemental briefing, dunnhumby also argues the term is indefinite. (R.123, at 25; R.163, at 4-6.) emnos responds first that dunnhumby waived its argument because it failed to allege—other than a cursory comment—this term as indefinite in its original briefing. (R.173, at 6.) Even if considered, however, emnos asserts that dunnhumby fails to meet its clear and convincing burden due to a lack of expert testimony and further that dunnhumby confuses proper breadth of a claim term with indefiniteness. (R.173, at 6-7.)

As an initial matter, dunnhumby did not waive its argument alleging indefiniteness of the claim term "storing said input list with a profile corresponding to said user." The Court asked for additional briefing on indefiniteness from both parties and explained that only those terms originally alleged as indefinite should be addressed. (*See Markman* Hrg. Tr., Feb. 4, 2015, 87:24-88:11.) Although dunnhumby alleged this term as indefinite in its reply claim construction brief for the '442 Patent, emnos knew—prior to the additional briefing—that dunnhumby had alleged the term as indefinite and emnos has now been given a full and fair opportunity to respond, negating the concerns normally addressed by waiver. *See Hernandez v. Cook County Sheriff's Office*, 634 F.3d 906, 913 (7th Cir. 2011) (citing *Egert v. Conn. Gen. Life Ins. Co.*, 900 F.2d 1032, 1035 (7th Cir. 1990)) ("The underlying concern is to ensure that the opposing party is not prejudiced by being denied sufficient notice to respond to an argument").

The claim term at issue is the second step in a claim directed to a method for facilitating execution of a query on a database. (*See* R.122-1, at JA14, Claim 1.) The claim again addresses

the input list in later steps including retrieval of the input list and selection of query criteria from the input list. (*Id.*, col.11:58-59; *id.*, at col.11:61-62.) The specification explains that:

> [A]n Input List may be used in the following manner. A user creates an input list containing the desired criteria of a field in a database (step 802). This list may be stored on the user's computer. In the alternative, the list can be stored centrally in the database, associated with the user's log on information. When the user is creating a query, the user selects the input list and uploads the contents of the input list to the query (step 804).

(*Id.*, JA12, col.7:21-28.) dunnhumby contends that this passage presents a "straight forward" explanation of storing the input list *on* the user's computer but that the person of ordinary skill in the art "would not have any objective basis to understand what it means for an input list to be associated with a user profile." (R.163, at 5.) dunnhumby argues that the person of ordinary skill would not know whether storing something *with* a user profile means to be stored in the user profile, or next to the user profile, or in the same file as the user profile, or in the same network or computer as the user profile. (*See id.*.) dunnhumby's argument, however, seems to confuse the understandable breadth of "with" as used in the '442 Patent claim with indefiniteness. A claim is not indefinite merely because it covers broad possibilities and encompasses multiple embodiments of the claimed terms. *See e.g., California Inst. of Tech. v. Hughes Commc'ns Inc.*, 35 F.Supp.3d 1176, 1194 (C.D. Cal. 2014) (post-*Nautilus* holding that just because "a term covers broad possibilities does not render it indefinite, as long as a person of ordinary skill can identify the outer boundaries, expansive though they may be"); *see also Takeda Pharm Co., Ltd. v. Mylan Inc.*, No. 13-CV-04001-LHK, 2014 WL 5862134, at *9 (N.D. Cal. Nov. 11, 2014) (citing *Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d 1339, 1353 (Fed. Cir. 2010) ("[m]erely claiming broadly" does not "prevent the public from understanding the scope of the patent"); *SmithKline Beecham Corp. v.Apotex Corp.*, 403 F.3d 1331, 1341 (Fed. Cir. 2005) ("breadth is not indefiniteness")). A claim is indefinite when those

multiple meanings are all plausible and the person of ordinary skill "cannot translate the definition into meaningfully precise claim scope." *See Interval Licensing*, 766 F.3d at 1371 (citations omitted) (explaining that under *Nautilus* terms that are subject to multiple plausible meanings to a person of ordinary skill in the art are indefinite). That is not the case here.

The description in the specification of the input list being stored on the user's computer or associated with the user's log on information is sufficient to provide objective boundaries to the person of ordinary skill in the art of the meaning of "with" in the '442 Patent claims.[19] The person of ordinary skill, therefore, would understand "with" to mean an association between the user profile and the input list. The exact details of how the person of ordinary skill chooses to associate the user profile *with* the input list is not the focus of this limitation of the claim, rather it is the fact that some type of association exists between the input list and the user profile. The additional references to "input list" in the later claim language itself serve to provide additional contours to the person of ordinary skill's understanding of the claimed association, in that it must be an association that allows for later retrieval of the input list by request and one that allows for selection of query criteria from the input list. Based on these disclosures, the person of ordinary skill would be informed with reasonable certainty what types of association between the user profile and the input list are encompassed by the claim language. *See Nautilus*, 134 S.Ct. at 2120, 2129. Accordingly, dunnhumby has not met its clear and convincing burden to establish the term "storing said input list with a profile corresponding to said user" indefinite.

[19] To the extent the meaning of "with" could be regarded as ambiguous, emnos's expert, Mr. Ian Jestice, agrees with the intrinsic evidence and provides the ordinary meaning of the term as understood by the person of ordinary skill. (R.139-2, Brandberry Decl, Ex. A, Jestice Dep. at 90:21-91:2 ("Q: What kind of an association is needed here? A: I–it's an association. There has to be some relationship between the two parts. Q: So any relationship between the two parts would satisfy what you mean by "association"? A: Yes. It could be direct or indirect, multiple levels of indirection. Just association.").)

As discussed above, the specification provides guidance for "with" that is consistent with its plain and ordinary meaning of an association between the input list and the user's information or user's profile. (*See* R.122-1, at col.7:21-28.) Minimal differences remain between the parties proposed constructions. dunnhumby's proposed construction includes a parenthetical referring to "a computer-based record maintained about an authorized user of a multiuser system" which represents the definition of a "user profile." (*See* R.123-1, Keller Decl., ¶¶ 76-79 (citing definition of "user profile", MICROSOFT COMPUTER DICTIONARY 544 (5th ed. 2002)); *see also Markman* Hrg. Tr., Feb. 4, 2015, 77:17-20.) emnos's proposed construction also recites "user profile". As the parties effectively agree that "profile corresponding to said user" is a "user profile" and that term has a recognized meaning to the person of ordinary skill in the art, the Court adopts the parties' agreement as to this term. The Court, therefore, construes the term to mean "storing the input list with the user's profile."

CONCLUSION

For the reasons set forth above, the Court construes the disputed claim terms as follows:

Disputed Claim Term	**Court's Construction**
"query template"	a collection of preset information that is added to or modified to create a request for specific or certain data
"selection of a query type"	Indefinite
"database field"	a location in the database having a field name in which a particular type or item of data is stored
"receiving a query field … from a user"	receiving a particular type or item of data used in a query … from a user

Disputed Claim Term	**Court's Construction**
"executing said SQL statement to add said query field and said query criteria to said query template"	executing the SQL statement to add the query field and the query criteria to the query template [a collection of preset information that is added to or modified to create a request for specific or certain data]
"query database"	a database (a structured set of data that can perform functions such as searching and sorting) that contains the stored queries
"performing an analysis of said query database"	performing an analysis on the database that contains the stored queries
"determines at least one of: database fields that are queried least often and database fields that are queried most often"	determines at least one of: database fields [locations in the database having a field name in which a particular type or item of data is stored] that are queried least often or most often
"storing said input list with a profile corresponding to said user"	storing the input list with the user's profile

DATED: April 1, 2015

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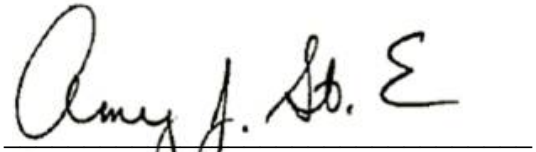

AMY J. ST. EVE
United States District Court Judge